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A contribution towards checklist of fungus gnats (Diptera, Diadocidiidae, Ditomyiidae, Bolitophilidae, Keroplatidae, Mycetophilidae) in Georgia, Transcaucasia

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Abstract

The fungus gnats of Georgia are studied based on 2682 specimens collected from 57 localities during 2011–2019. Altogether, 245 species are recorded including four species of Bolitophilidae, three species of Diadocidiidae, two species of Ditomyiidae, 34 species of Keroplatidae and 202 species of Mycetophilidae. 230 and 188 species are recorded from Georgia and the whole of Transcaucasia for the first time, respectively. Three new species – *Sciophila georgei* sp. nov., *Leia katae* sp. nov. and *Anatella metae* sp. nov. – are described including detailed illustrations of the male terminalia. Photographs are provided for an additional 38 species to highlight a variability of their general facies. Combined with earlier published data, the number of fungus gnat species in Georgia is set at 246. The estimated diversity of fungus gnats in Georgia is calculated using non-parametric methods and discussed with respect to other Western Palaearctic regions.

Keywords

Fungus gnats, Georgia, new species, Sciaroidea, species diversity, taxonomy, Transcaucasia

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Introduction

The last decades can be characterized by an upturn of systematics, taxonomy and biodiversity studies (e.g. Padial et al. 2010; Kõljalg et al. 2020; Wheeler 2020). That is also true in the case of the insects order Diptera (e.g. Wiegmann et al. 2011; Kirk-Spriggs and Sinclair 2017; Borkent et al. 2018) including the superfamily Sciaroidea (e.g. Kjærandsen et al. 2007; Borkent and Wheeler 2012; Ševčík et al. 2013; Fitzgerald and Kerr 2014). Seven families and a *insertae sedis* group are included in Sciaroidea (Ševčík et al. 2016; Mantič et al. 2020), whereas five of them, viz. Diadocidiidae, Ditomyiidae, Bolitophilidae, Keroplatidae and Mycetophilidae are conjoined under a common name 'fungus gnats'. Today, more than 5,500 species of fungus gnats are known globally (Evenhuis and Pape 2021; Fungus Gnats Online Authors 2021), however, their actual diversity is insufficiently known, especially in tropical regions of the world. As expected, the group is best studied in Europe with about 1,200 named species (Chandler 2013) yielded by more than 200 years of studies pioneered by the "father" of dipterology J.W. Meigen (e.g. Meigen 1804, 1818). Nevertheless, even in Europe, new species are described annually and e.g. in Nordic countries nearly 120 new species are waiting to be described (Kjærandsen and Søli 2020). While fungus gnats are mostly forest dwellers preferring shady and humid habitats, some species are also recorded from more open landscapes (Falk and Chandler 2005). They are small to medium size nematocerous flies with a humpbacked habitus, prominent coxae and hyaline or patterned wings (see e.g. Figs 8, 9). The trophic strategy of fungus gnats is diverse: the majority of the known associations are those with fungal fruiting bodies or mycelium-penetrated forest litter including decaying wood but several species develop in other terrestrial habitats and/or can also be sporophagous or predators in the larval stage (e.g. Matile 1997; Ševčík 2010; Jakovlev 2012; Põldmaa et al. 2016; Mantič et al. 2020).

Transcaucasia, the area southwards from the Greater Caucasus Mountains that includes the countries of Georgia, Azerbaijan and Armenia, is considered one of the biodiversity hotspots of the world, with a remarkable number of endemic species (Myers et al. 2000). However, limited attention has been paid to the biodiversity research in the area so far (Mumladze et al. 2020) and most organism groups, including Diptera and fungus gnats in particular, are rather superficially studied. There are 33 species of fungus gnats recorded from Azerbaijan (Zaitzev 1994, 2003; Zaitzev and Ševčík 2003) and seven species from Armenia (Joost and Plassmann 1985, Zaitzev 1994). From Georgia, only one species was known (Zaitzev 1994) prior to Kurina and Jürgenstein (2013) who described two new *Orfelia* Costa (Keroplatidae) species from Marelisi, NW of Borjomi. Later on, Jürgenstein et al. (2015), Kurina et al. (2015), Kurina (2018), Thormann et al. (2019) and Ševčík et al. (2020) provided data on another twelve species and the number of fungus gnat species from Georgia is currently set at 15. Furthermore, an additional 24 fungus gnat species have been listed to occur in Transcaucasia but without a specified region (Zaitzev 1994, 2003). Concerning neighbouring areas, 91 species of fungus gnats are recorded from the northern slopes of the

Great Caucasus ridge, most of them from the surroundings of Mt Elbrus (Joost and Plassmann 1976, 1979, 1985, 1992, Plassmann 1976).

During the last decade, a considerable amount of fungus gnat material from Georgia has accumulated in the author's possession. The aim of the current contribution is to provide results of the study based on that material along with summarising all available published information on Georgian fungus gnats.

Material and methods

The material was collected from 2011 to 2019 using different methods in the course of 61 collecting events from 57 localities in Georgia (Table 1, Fig. 1). The majority of the material was collected sweeping during three expeditions by the author in May of 2012 and 2013 and August-September 2014. Additional material from Malaise trap samples is included from the provinces Samegrelo-Zemo-Svanethi, Imereti and Kaheti; a sporadic material as a by-product of light trap collecting is also included (Table 1). The collecting localities (see Fig. 2 for examples) varied from more open landscape in Vardzia (Table 1: SJ-10) to highly forested mountain areas in Kintrishi (Table 1: A-5–8), Mtirala (Table 1: A-1–4) and Borjomi-Kharagauli (Table 1: I-5–17) National Parks, and subalpine areas in the surroundings of Stepantsminda (Table 1: MM-1–6), Bakuriani (Table 1: SJ-6–7) and Ushguli (Table 1: SZS-2–3).

The vast majority of the material was initially preserved in 70% ethyl alcohol where most of it is also stored after determination. Every species per locality is arranged in a separate glass vial equipped with collecting and determination labels. Some specimens

Figure 1. Collecting localities in Georgia. The codes are those used in Table 1.

Table 1. Collecting data of fungus gnats in Georgia arranged by administrative regions of the country. Codes for the collecting events are used on the Figure 1 and within the list of species. The asterisk (*) indicates collecting with a Malaise trap for which the exact collecting dates are provided in the text.

Region	Locality	Coordinates	Altitute (m)	Collecting date(s)	Collecting method	Collector	Code
Samegrelo-Zemo Svanethi	Mestia	43°02.97'N, 42°44.72'E	1500	28.vii.2017	light trap	O. Kurina	SZS-1
	Chvabiani	43°02.47'N, 42°51.03'E	1630	29.vii.2017	light trap	O. Kurina	SZS-2
	S of Lakhushdi, meadow	42°59.93'N, 42°39.02'E	1270	13–14.vi.2019	Malaise trap	X. Mengual	SZS-3
	near Ushguli, path to glacier	42°56.62'N, 43°03.23'E	2220	15–17.vi.2019	Malaise trap	X. Mengual	SZS-4
Adjara	Mtirala NP, visitor centre	41°40.65'N, 41°51.30'E	240	19.v.2013	sweeping	O. Kurina	A-1
	Mtirala NP, visitor centre	41°40.65'N, 41°51.33'E	230	19.v.2013	at light	O. Kurina	A-2
	Mtirala NP, visitor centre	41°40.35'N, 41°52.53'E	270	20.v.2013	sweeping	O. Kurina	A-3
	Mtirala NP, visitor centre	41°40.91'N, 41°50.70'E	220	20.v.2013	at light	O. Kurina	A-4
	Kintrishi NP	41°45.76'N, 41°58.67'E	320	21.v.2013	sweeping	O. Kurina	A-5
	Kintrishi NP	41°45.76'N, 41°58.67'E	320	21.v.2013	at light	O. Kurina	A-6
	Kintrishi NP	41°45.20'N, 41°58.63'E	450	22.v.2013	sweeping	O. Kurina	A-7
	Kintrishi NP	41°46.40'N, 41°58.08'E	460	22.v.2013	sweeping	O. Kurina	A-8
Imereti	Chiatura	42°17.00'N, 43°17.00'E	480	17.v.2011	light trap	U. Jürivete	I-1
	Tshunkuri	42°24.00'N, 42°35.00'E	230	20.v.2011	light trap	U. Jürivete	I-2
	Patara Vardzia, W of Kharagauli	42°0.55'N, 43°04.62'E	740	v-x.2013*	Malaise trap	O. Kurina	I-3
	Patara Vardzia, W of Kharagauli	42°01.32'N, 43°11.10'E	370	18.v.2013	sweeping	O. Kurina	I-4
	Marelisi	41°57.07'N, 43°17.02'E	430	18.v.2012	sweeping	O. Kurina	I-5
	Marelisi	41°57.93'N, 43°17.35'E	410	19.v.2012	sweeping	O. Kurina	I-6
	Marelisi, on road to railway station	41°58.02'N, 43°17.35'E	440	19.v.2012	at light	O. Kurina	I-7
	Marelisi	41°57.00'N, 43°17.00'E	460	20.v.2012	indoors	O. Kurina	I-8
	Marelisi, on path to hill	41°56.38'N, 43°16.62'E	690	20.v.2012	sweeping	O. Kurina	I-9
	Marelisi	41°56.80'N, 43°17.05'E	450	20.v.2012	sweeping	O. Kurina	I-10
	Marelisi	41°58.02'N, 43°17.38'E	400	17.v.2013	sweeping	O. Kurina	I-11
	Marelisi	41°56.28'N, 43°16.98'E	460	17.v.2013	sweeping	O. Kurina	I-12
	Marelisi	42°56.46'N, 43°17.05'E	460	18.v.2013	al light	O. Kurina	I-13
	Marelisi	41°56.28'N, 43°16.98'E	460	29.viii.2014	sweeping	O. Kurina	I-14
	Marelisi	41°56.38'N, 43°16.47'E	760	30.viii.2014	sweeping	O. Kurina	I-15
	Marelisi, close to railway station	41°58.23'N, 43°18.65'E	400	20.v.2012	al light	O. Kurina	I-16
	Marelisi, close to railway station	41°58.14'N, 43°18.63'E	410	23.v.2013	sweeping	O. Kurina	I-17
Shida-Kartli	W of Surami	42°01.57'N, 43°29.88'E	940	18.v.2012	sweeping	O. Kurina	SK-1
Samtskhe-Javakheti	road from Abastumani to Saime, near river	41°46.63'N, 42°50.23'E	1370	10–11.vi.2019	Malaise trap	X. Mengual	SJ-1
	road from Abastumani to Saime	41°47.82'N, 42°50.63'E	1730	10–11.vi.2019	Malaise trap	X. Mengual	SJ-2
	Borjomi 3 km--W, Likani	41°50.15'N, 43°19.95'E	940	21.v.2012	sweeping	O. Kurina	SJ-3
	Borjomi 3.5 km--W, Likani	41°50.11'N, 43°19.92'E	950	31.viii.2014	sweeping	O. Kurina	SJ-4
	Bakuriani 2 km--NW	41°45.77'N, 43°30.28'E	1630	31.viii.2014	sweeping	O. Kurina	SJ-5
	Bakuriani 5 km--S, road from Bakuriani to Tabatskuri	41°42.33'N, 43°30.13'E	2120	1.ix.2014	sweeping	O. Kurina	SJ-6
	Bakuriani 3 km--SW, road from Bakuriani to Tabatskuri	41°43.33'N, 43°29.87'E	1870	1.ix.2014	sweeping	O. Kurina	SJ-7
	Bakuriani 1 km--SW, road from Bakuriani to Tabatskuri	41°44.22'N, 43°30.75'E	1740	1.ix.2014	sweeping	O. Kurina	SJ-8
	Bakuriani 2 km--NW	41°45.77'N, 43°30.28'E	1630	1.ix.2014	sweeping	O. Kurina	SJ-9
	Vardzia, near Tirebi guesthouse	41°24.17'N, 43°19.23'E	1260	22.v.2012	at light	O. Kurina	SJ-10
Mtskhetha-Mthianethi	Stephantsminda	42°39.28'N, 44°39.28'E	1870	15.v.2012	at light	O. Kurina	MM-1
	Stephantsminda, road to Gegriti Trinity Church	42°39.77'N, 44°37.50'E	1980	16.v.2012	sweeping	O. Kurina	MM-2
	Gvelethi NW of Stepantsminda	42°42.28'N, 44°37.27'E	1640	16.v.2012	at light	O. Kurina	MM-3
	Gvelethi NW of Stepantsminda, surroundings of lake	42°43.37'N, 44°37.12'E	1520	17.v.2012	sweeping	O. Kurina	MM-4
	Gvelethi NW of Stepantsminda, surroundings of waterfall	42°42.23'N, 44°37.20'E	1570	17.v.2012	sweeping	O. Kurina	MM-5
	Stephantsminda, road to Gegriti Trinity Church	42°40.02'N, 44°37.15'E	2090	17.v.2012	at light	O. Kurina	MM-6
	Gudauri	42°26.23'N, 44°29.95'E	1780	8.vii.2019	light trap	A. Selin	MM-7
	Dgnali	42°13.43'N, 44°40.02'E	910	15.v.2012	sweeping	O. Kurina	MM-8

Region	Locality	Coordinates	Altitute (m)	Collecting date(s)	Collecting method	Collector	Code
Mtskhetha-Mthianethi	Zaridzeebi	42°42.08'N, 44°54.00'E	870	22.v.2011	light trap	U. Jürivete	MM-9
	Saguramo	41°54.00'N, 44°46.00'E	600	16.v.2011	light trap	U. Jürivete	MM-10
	Saguramo	41°53.07'N, 44°46.78'E	920	15.v.2012	sweeping	O. Kurina	MM-11
	Saguramo	41°53.07'N, 44°46.78'E	920	15.v.2013	sweeping	O. Kurina	MM-12
	Saguramo	41°53.07'N, 44°46.78'E	920	28.viii.2014	sweeping	O. Kurina	MM-13
	Saguramo	41°53.13'N, 44°46.73'E	890	4.ix.2014	sweeping	O. Kurina	MM-14
Kvemo Kartli	Manglisi 6 km–S	41°39.89'N, 44°23.10'E	1190	23.v.2012	sweeping	O. Kurina	KK-1
Kakheti	Dzveli Shuamta W of Telavi	41°54.60'N, 45°24.33'E	1000	2.ix.2014	sweeping	O. Kurina	K-1
	Gurgeniani, W of Lagotekhi	41°52.67'N, 46°14.55'E	630	3.ix.2014	sweeping	O. Kurina	K-2
	Matsimi near Lagotekhi	41°48.55'N, 46°18.73'E	440	3.ix.2014	at light	O. Kurina	K-3
	Lagodekhi NR, near administration building	41°50.50'N, 46°16.98'E	560	28.v–9.vi.2011	Malaise trap	G. Japoshvili	K-4
	Lagodekhi NR, Matsimi river gorge	41°47.75'N, 46°17.12'E	350	17–27.v.2011	Malaise trap	G. Japoshvili	K-5
	Lagodekhi NR (Malaise trap #3)	unavailable		15–25.vi.2014	Malaise trap	G. Japoshvili	K-6

were double pinned directly after collecting, whereas part of the initially alcohol-preserved specimens were mounted using the method described by Vockeroth (1966) and double pinned thereafter. The majority of the material was determined directly in alcohol as that also allowed observation of the terminalia. However, in a number of cases a more detailed study of male terminalia proved to be unavoidable. For that, terminalia were detached and treated with about 10% warm potassium hydroxide followed by neutralization with acetic acid and washing with distilled water. Terminalia were studied in glycerine and stored as glycerine preparations in small plastic vials attached to the rest of the specimen (see also Kurina 2008a).

Illustrations of the terminalia were prepared using a U-DA drawing tube attached to a compound microscope Olympus CX31. The digital images of the general habitus and terminalia were combined using the software LAS V.4.1.0. from multiple gradually focused images taken by a Leica DFC 450 camera attached to a Leica 205C stereomicroscope (see also Jürgenstein et al. 2015). Adobe Photoshop CS5 was used for editing the figures and compiling the plates. The morphological terminology follows Søli (1997, 2017) and that of the male terminalia is explained in Figs 4–7. The estimated species richness according to different non-parametric methods (Fig. 14) is calculated using the software EstimateS, Version 9.1.0. (Colwell 2013).

The material is deposited in the following collections:

IUTG Ilia State University, Tbilisi, Georgia;
IZBE Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences (former Institute of Zoology and Botany), Tartu, Estonia;
ZFMK Zoological Research Museum Alexander Koenig, Bonn, Germany.

The majority of the studied specimens are deposited in IZBE which is not repeated in the species list for every specimen. However, the material collected by X. Mengual (Bonn, Germany) in 2019 is divided between three institutions and the depository is specified in listed material sections below.

Figure 2. A gallery of collecting localities in Georgia. For codes see Table 1 **A** Mestia (SZS-1) **B** Mtirala NP (A-1) **C** Kintrishi NP (A-5) **D** Marelisi (I-12) **E** Bakurjani (SJ-6) **F** Lagotekhi (K-3) **G** Vardzia (SJ-10) **H** Gvelethi near Stepantsminda (MM-5) **I** Dgnali (MM-8).

Results

Altogether, 2682 studied specimens were identified to 245 different species, viz. four species of Bolitophilidae, three species of Diadocidiidae, two species of Ditomyiidae, 34 species of Keroplatidae and 202 species of Mycetophilidae including three species described as new to science. One additional species of Keroplatidae was included from the literature data (Zaitzev 1994). Moreover, six additional putatively new Mycetophilidae species were recorded, all represented by singletons, some of them of poor quality. Description of these species is deferred pending additional material to be collected. These six species are not included in the species list but are considered in the species richness calculations and distribution analysis (see Discussion). 230 and 188 species are recorded from Georgia and the whole Transcaucasia for the first time, respectively. In the species list, all available literature sources are cited for the species recorded earlier in Georgia and/or in Transcaucasia generally. The studied material is listed, using abbreviations of collecting events provided in Table 1, followed by total number of studied specimens. Distribution in Georgia is given by administrative provinces and the general distribution by zoogeographical regions or subregions. The latter is provided according to Chandler (2013) and subsequent published information available. Some remarks on distribution and/or taxonomy are included for species of special interest. To illustrate the diverse habitus of recorded fungus gnat species a gallery of photographs is provided (Figs 8, 9, 11, 12). In the list of species, the classification follows Fungus Gnats Online (http://www.sciaroidea.info/) except in two cases. Firsty, the subfamily Platyurinae of Keroplatidae is used according to Mantič et al. (2020). Secondy, *Brachycampta* Winnertz, 1863 is reinstated to the generic status from a subgenus of *Allodia* Winnertz, 1863 in accordance with a thorough study by Magnussen (2020); this opinion is also implemented in the recent checklist of fungus gnats of Norway by Kjærandsen and Søli (2020).

The new species

***Sciophila georgei* sp. nov.**
http://zoobank.org/D9E0ED72-E487-480C-A89F-4E6DDD98C406
Figs 3A, 4A–G

Type material. ***Holotype.*** Male, Georgia, Kakheti, Lagotekhi NR, Matsimi river gorge, 41°47.75'N, 46°17.12'E, 350 m a.s.l., 17–27.v.2011, Malaise trap, leg. G. Japoshvili [see Table 1: K-5] (mounted from alcohol, IZBE). ***Paratype.*** Male, same as holotype (mounted from alcohol, IZBE).

Diagnosis. *Sciophila georgei* sp. nov. can be distinguished by combination of the characters of the male terminalia as follows: lateral branch of gonostylus ventrally with two apical spine-like setae, small internal branch of gonostylus with one spine-like seta, tergite 9 large with medially rising apical margin that bears two large and simple setae, parameres straight and long, extending over tergite 9 apically, aedeagus small, star-shaped.

Description. Male. Body length 2.7–2.8 mm (n = 2). ***Coloration.*** Head with vertex and frons dark brown, face and clypeus brown and mouthparts including palpus

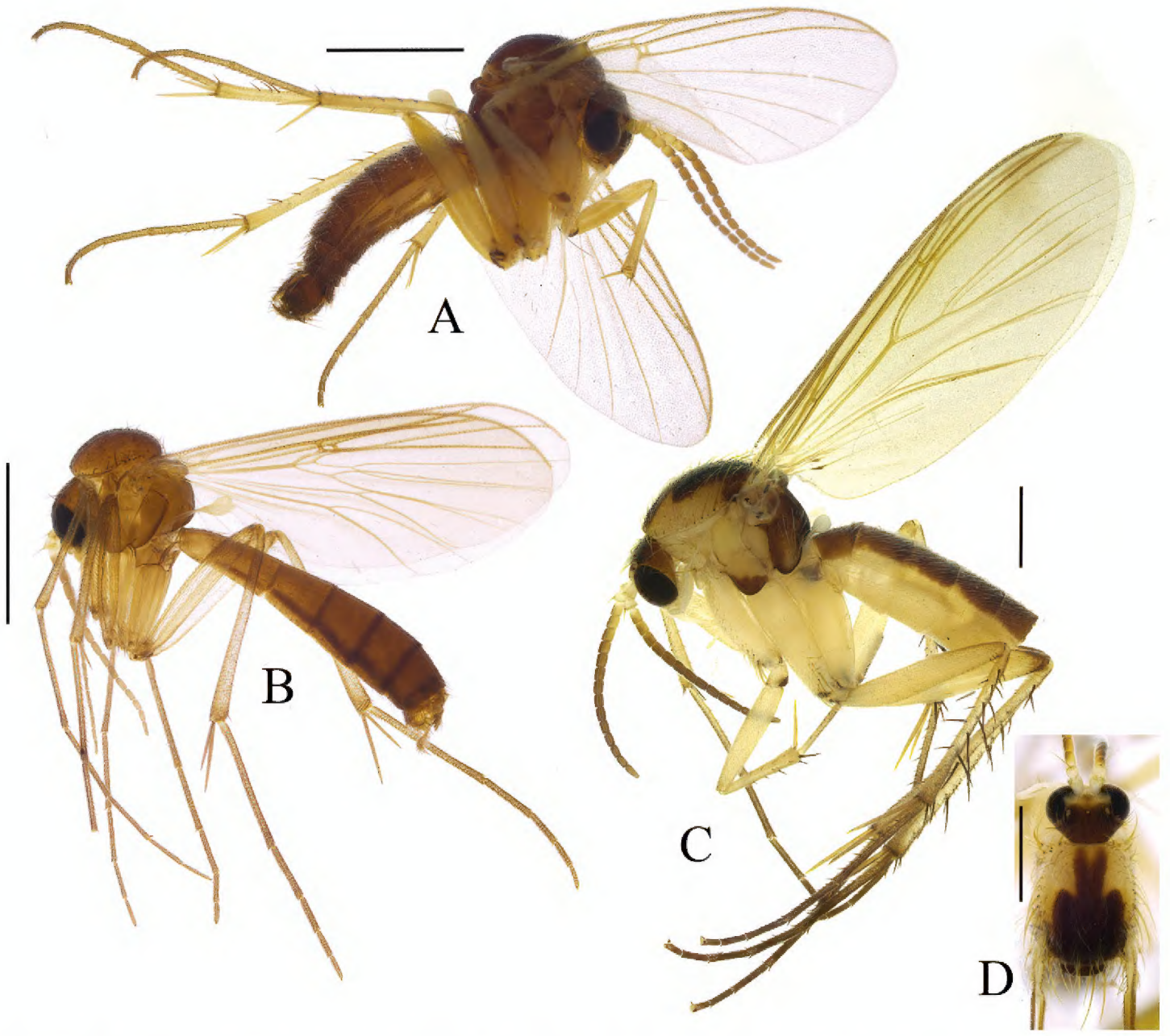

Figure 3. Habitus photos of new species **A** *Sciophila georgei* sp. nov., paratype **B** *Anatella metae* sp. nov., paratype **C** *Leia katae* sp. nov., holotype, terminalia detached. Scale bars: 1 mm.

pale yellow. Scape and pedicel yellow. First three or four flagellomeres yellowish, rest of flagellomeres light brown. Scutum entirely dark brown, antepronotum and proepisternum yellowish, anepisternum, anepimeron and katepisternum light brown, laterotergite and mediotergite brown, scutellum brown. Thoracic setae all yellowish. Wing hyaline, all veins brown including radial veins somewhat darker. Halter with stem and knob pale yellow. All coxae, femora and tibiae yellow, tarsi yellow but seem darker because of dense brown setae. Tibial setae brown, spurs yellowish. Abdomen with tergites light brown, 1–3 tergites somewhat lighter, all sternites yellowish. Abdominal vestiture yellow. Terminalia brown. ***Head.*** Ocelli in a shallow triangular arrangement. Medial ocellus somewhat smaller than laterals. Frontal furrow complete. Clypeus subrounded, about as long as broad. Fourth flagellar segment about as long as wide, apical flagellar segment 2.25 times as long as wide basally. Flagellar segments with dense yellowish short setae. ***Thorax.*** Scutum covered with short setae, with marginal and prescutellar setae stronger. Antepronotum with 8–9 setae. Proepisternum with 6–7 setae. Anepisternum with 5–6 setae on upper part, katepisternum and anepimeron non-setose. Laterotergite with 7–9 setae on posterior half. Mediotergite with 10–15 setae on lower part. Metepisternum

with setulae. Scutellum with setulae and marginal setae not arranged in pairs. ***Wing.*** Length 2.5–2.8 mm, length to width 2.4–2.7. Wing membrane uniformly covered with micro- and macrothichia. All veins setose, except *sc-r*, *Rs*, R_{2+3}. Costa reaches about one fifth from R_{4+5} to M_1. *Sc* ending on *C* before level of furcation of posterior fork. *Sc-r* located slightly before *Rs*. *r-m* about two times as long as *m-stem*. M_4 basally very faint or shortly interrupted at base. ***Legs.*** Ratio of femur to tibia for fore, mid and hind legs: 0.83–0.93; 0.89–0.97; 0.84–0.92. Ratio of tibia to basitarsus for fore, mid and hind legs: 1.26; 1.42–1.65; 1.33–1.37. Fore tibia with a spur 2.29–2.81 times of tibial maximum width. Mid tibia with anterior spur 3.08–3.15 times and posterior spur 3.42–3.69 times of tibial maximum width. Hind tibia with anterior spur 2.50–2.60 times and posterior spur 3.47–3.57 times of tibial maximum width. ***Terminalia*** (Fig. 4A–G). Gonocoxites fused for short distance ventrobasally forming medial triangular lobe with medial more sclerotized longitudinal ridge internally. Ventromedial margin of gonocoxite with a membranous flange drawn medially out into digitate apically hooked lobe. Gonocoxite covered with uniform setae except non-setose lateroapical and dorsomedial marginal areas. Dorsoposterior margin of gonocoxite with two prominent medially directed setae. Gonocoxal apodeme anteriorly enlarged, shoe-shaped, well discernible in dorsal view. Tergite 9 large, slightly convergent posteriorly, extending over gonocoxites, subapically constricted with two prominent simple setae apically, apical margin medially rising. Parameres long and straight, apically slightly widening, extending over tergite 9 apically. Aedeagus small, star-shaped, medially with posteriorly projecting digitate process. Lateral branch of the gonostylus laterally setose with aggregation of spine like setae along posterior margin; ventral part extended with two prominent apical spine-like setae. Medial branch of gonostylus with 25–30 furcated megasetae. Small internal branch of gonostylus with one prominent medially directed seta.

Female. Unknown.

Etymology. The species is named in honour of Prof. George Japoshvili (Tbilisi, Georgia) in recognition of his contribution to study of the insects' diversity in Georgia and his invaluable help in collecting the fungus gnat material that underlies the current communication. He was also the collector of the type material of this species.

Remarks. More than 190 species of *Sciophila* Meigen are known wordwide (Kurina 2020a, Taber 2021); the most comprehensive key to the Holarctic species is still that by Zaitzev (1982). Fortunately, all subsequently described species are supplemented with appropriate illustrations of the male terminalia (e.g. Polevoi 2001; Salmela and Kolcsár 2017; Taber 2021) that provides an adequate compendium of the morphological distinctions. Following the key by Zaitzev (1982), the new species runs to couplet 31 because of (1) wing with both macro- and microtrichia, (2) gonostylus without additional branches, (3) lateral branch of the gonostylus with two large setae ventroapically, (4) small internal branch of the gonostylus with one large seta, and (5) gonocoxites dorsoapically without protruding appendages. However, *S. georgei* sp. nov. differs from the species included in this couplet by details in the male terminalia. Notably, by the characters of tergite 9 (large, posteriorly convergent, extends over gonocoxites, bears two prominent simple setae apically, apical margin medially rising) and parameres (long, straight, extending over tergite 9 apically).

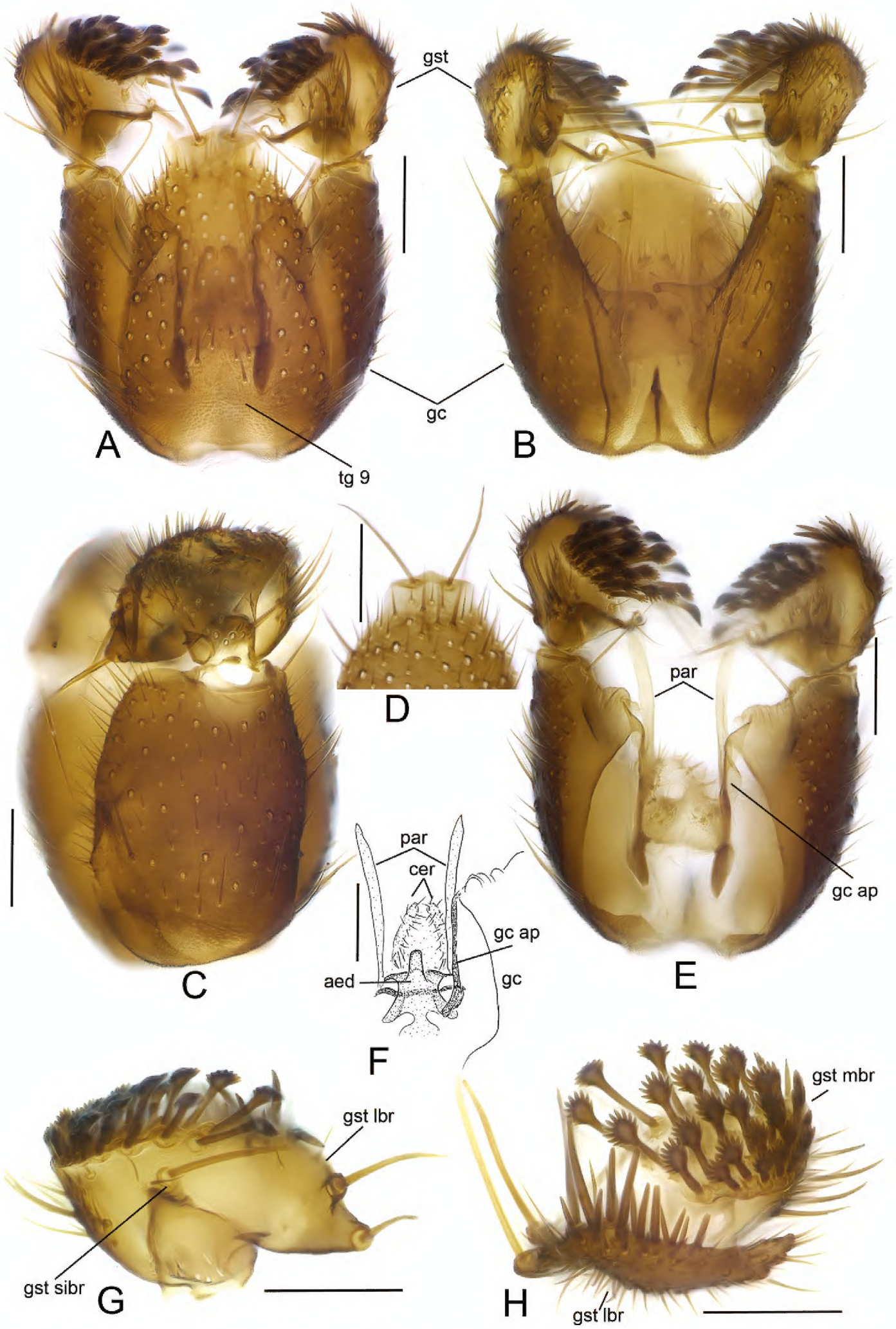

Figure 4. *Sciophila georgei* sp. nov., male terminalia **A** dorsal view **B** ventral view **C** lateral view **D** apical part of tergite IX, dorsal view **E** dorsal view, tergite IX removed **F** aedeagal complex, dorsal view **G** gonostylus, internal view **H** gonostylus, posterior view. Abbreviations: aed = aedeagus, cer = cercus, gc = gonocoxite, gc ap = gonocoxal apodeme, gst lbr = lateral branch of gonostylus, gst mbr = medial branch of gonostylus, gst sibr = small internal branch of gonostylus, par = paramere, tg 9 = tergite IX. Scale bars: 0.1 mm.

***Leia katae* sp. nov.**
http://zoobank.org/FDD299DF-4281-4DD0-9BAC-8B6050D98226
Figs 3C, D, 5A–D, 6A–C

Type material. ***Holotype.*** Male, Georgia, Shida-Kartli, W of Surami, 42°01.57'N, 43°29.88'E, 940 m a.s.l., 18.v.2013, sweeping, leg. O. Kurina [see Table 1: SK-1] (mounted from alcohol, IZBE). ***Paratype.*** Male, GEORGIA, Samegrelo-Zemo-Svanethi, near Ushguli, path to glacier, 42°56.62'N, 43°03.23'E, 2220 m a.s.l., 15–17.vi.2019, Malaise trap, leg. X. Mengual [see Table 1: SZS-4] (in alcohol, ZFMK)

Diagnosis. *Leia katae* sp. nov. can be distinguished by the combination of characters as follows: thorax bicolored (scutum yellow, with brown longitudinal stripes; katepisternum with lower half brown), wing tinged yellowish, with faint preapical brownish band, male terminalia with bipartite gonostylus (lateral prong shorter, convolute and apically hooked; medial prong longer, tapering with preapical small tooth at ventral margin).

Description. Male. Body length 6.7–6.9 mm (n = 2). ***Coloration.*** Head with vertex brown, frons yellow, face, clypeus and mouthparts including palpus pale yellow. Scape and pedicel pale yellow. First two flagellomeres yellowish, flagellomeres 3–14 brown. Thorax bicoloured: scutum yellow with three brown longitudinal stripes, which are posteriorly completely fused, lateral stripes begin at a distance of one third from anterior margin, medial stripe shortly split anteriorly, lateral parts of scutum yellow; antepronotum, proepisternum and anepisternum yellow, posterior margin of anepimeron light brown, katepisternum with lower half brown and upper half yellow, laterotergite brown with posterior half yellowish, mediotergite brown, scutellum basally yellowish, apically brown. Thoracic setae all yellow. Wing with yellowish tinge and preapical very faint transverse brownish band reaching to M_2, all veins yellowish including radial veins somewhat darker. Halter with stem and knob pale yellow. All coxae and femora yellow, except hind femur apically with narrow brown band, all tibiae, tarsi yellow but seem darker because of dense brown setae. Tibial setae brown, spurs yellowish. Abdomen with all tergites brown and sternites yellow. Abdominal vestiture yellow. Terminalia brown with gonocoxite medially and gonostylus anteriorly yellow. ***Head.*** Ocelli in a linear arrangement. Medial ocellus about twice smaller than laterals, which are separated from eye margins by less than their own diameter. Frontal furrow complete. Clypeus obovoid. Fourth flagellar segment about as long as wide, apical flagellar segment 2.5 times as long as wide basally. Flagellar segments with dense yellowish short setae. ***Thorax.*** Scutum densely covered with setae, with marginal and prescutellar setae stronger. Antepronotum with 6–7 strong and a number of weaker setae. Proepisternum with one very strong seta at anterior margin about 10 weaker setae. Anepisternum, katepisternum and anepimeron non-setose. Laterotergite with long fine setae on posterior half. Mediotergite non-setose. Scutellum with a row of marginal setae including two pairs remarkably stronger. ***Wing.*** Length 5.3–5.7 mm, length to width 2.3–2.8. All veins setose, except *Sc*, *sc-r*, *Rs* and extreme base of M_1. *Sc* ending on *C* at level of furcation of posterior fork. R_{4+5} 3.3 times as long as R_1. *r-m* 1.47 times as long as *m-stem*. M_1 and M_2 apically convergent, apical third of both veins faint. M_4

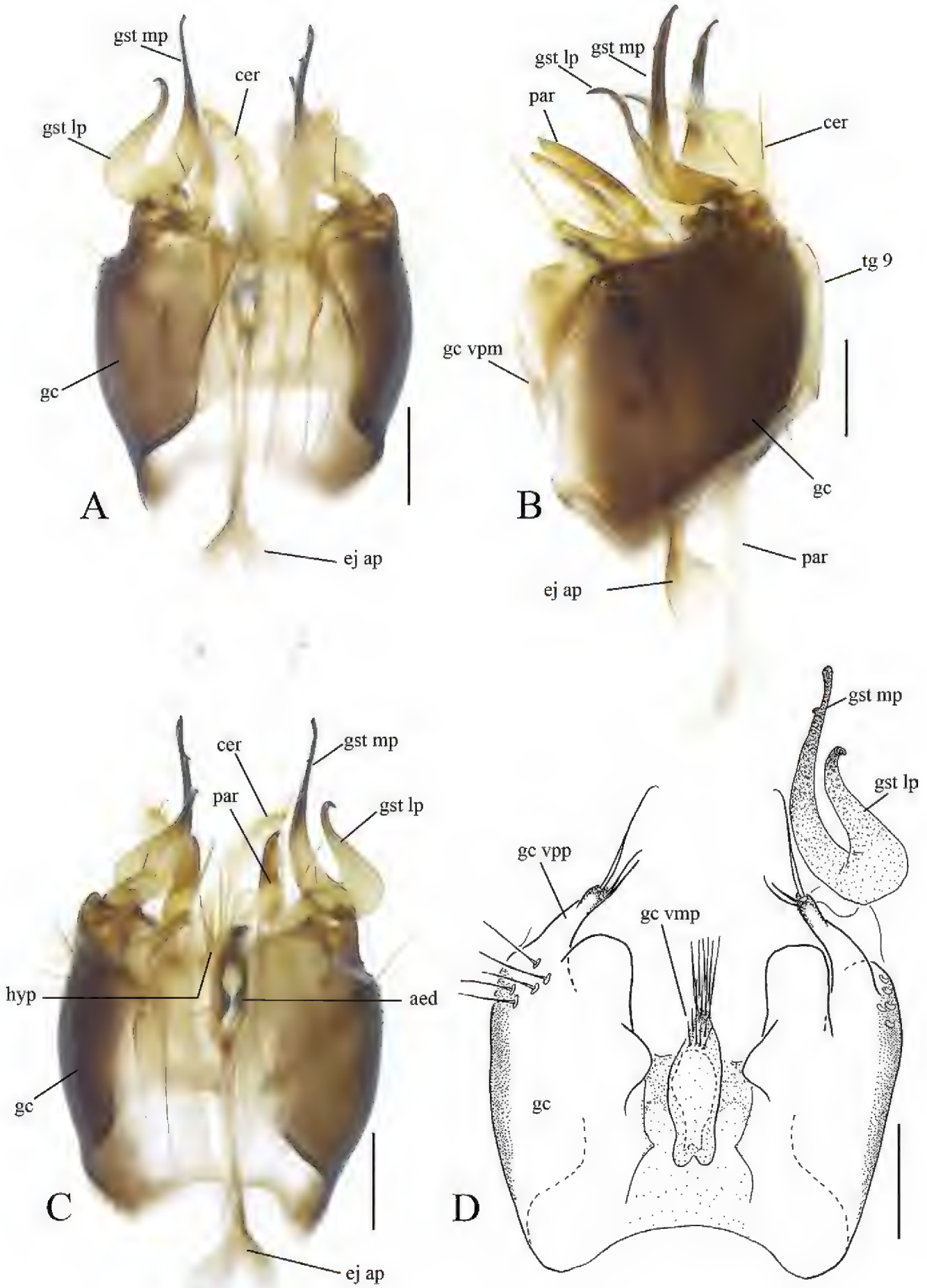

Figure 5. *Leia katae* sp. nov., male terminalia **A** dorsal view **B** lateral view **C** ventral view **D** gonocoxite and gonostylus, ventral view. Abbreviations: aed = aedeagus, cer = cercus, ej ap = ejaculatory apodeme, gc = gonocoxite, gc vmp = ventromedial process of gonocoxite, gc vpp = ventroposterior process of gonocoxite, gst lp = lateral prong of gonostylus, gst mp = medial prong of gonostylus, hyp = hypoproct, par = paramere, tg 9 = tergite IX. Scale bars: 0.2 mm.

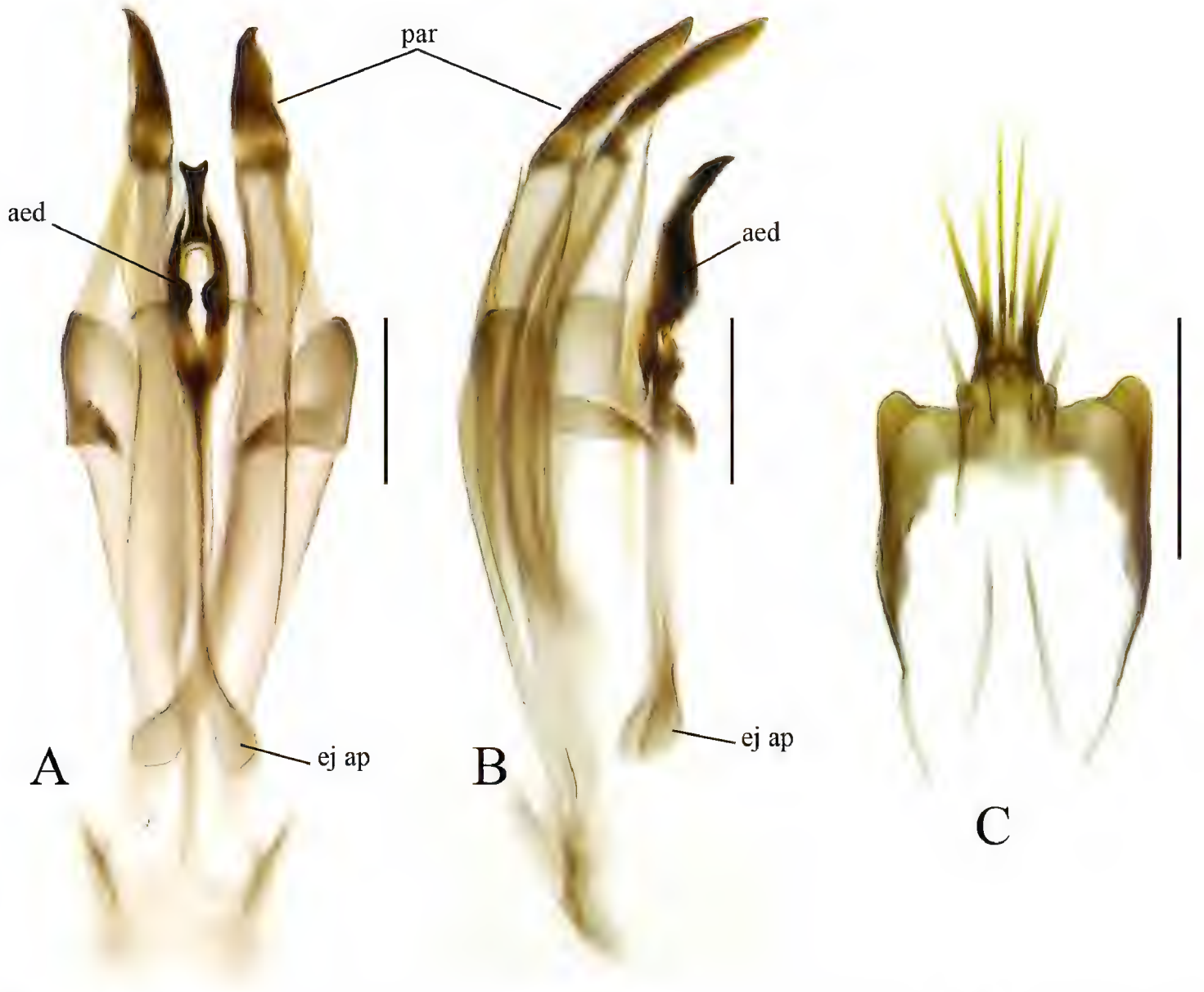

Figure 6. *Leia katae* sp. nov., male terminalia **A** aedeagal complex, ventral view **B** aedeagal complex, lateral view **C** hypoproct ventral view. Abbreviations: aed = aedeagus, ej ap = ejaculatory apodeme, par = paramere. Scale bars: 0.2 mm.

interrupted at base. *Rs* located distally of the anterior fork. ***Legs.*** Ratio of femur to tibia for fore, mid and hind legs: 1.16; 0.95; 0.86. Ratio of tibia to basitarsus for fore, mid and hind legs: 1.00; 1.66; 2.00. Fore tibia with a spur 2.95 times of tibial maximum width. Mid tibia with anterior spur 3.33 times and posterior spur 3.96 times of tibial maximum width. Hind tibia with anterior spur 3.33 times and posterior spur 4.58 times of tibial maximum width. ***Terminalia*** (Figs 5A–D, 6A–C). Gonocoxite with setae on apical fifth only. Ventromedial process of gonocoxite elongated ovoid with a row of long setae apically and an aggregation of shorter setae on apical fourth. Ventroposterior margin of gonocoxite drawn into a wide membraneous non-setose medial lobe and a digitate more protruding lobe with one prominent and 2–3 weaker apical setae. Tergite 9 membraneous, somewhat tapering, apically evenly rounded with apicocentral patch of short setae. Gonostylus bipartite: lateral prong shorter, convolute and apically hooked; medial prong longer, tapering with preapical small tooth at ventral margin. Aedeagus with sclerotized, cup-shaped apical portion, ejaculatory apodeme bilobed. Paramere about 1.6 times as long as aedeagus, bowed in lateral view, apically tapering, with ventral flange drawn out into a triangular membranous process in the middle;

anteriorly, parameres fused into a complex membranous structure with anterior concavity and well protruding lateral corners. Hypoproct with protruding apicolateral corners and medial part that bears a group of stout setae.

Female. Unknown.

Etymology. The species is named after my daughter Katariina (born 3 November 2000), an enthusiastic student of biology at the University of Tartu (Estonia). She participated in a trip to Georgia in 2017 that yielded several specimens of this study and she always insists we call her Kata.

Remarks. There are 166 *Leia* Meigen species known worldwide including 33 in the Palaearctic region (Polevoi and Salmela 2016). *Leia katae* sp. nov. differs from all known Palaearctic and Nearctic species by its peculiar structure of the gonostylus that is bipartite: medial prong long and slender with a preapical tooth, and lateral prong apically hooked, about 2/3 of the medial prong.

Anatella metae sp. nov.

http://zoobank.org/7CD91319-0672-4DC8-9CF6-7140ADF1F13E

Figs 3B, 7A–G

Type material. ***Holotype.*** Male, Georgia, Mtskhetha-Mthianethi, Saguramo north of Tbilisi, 41°53.07'N, 44°46.78'E, 920 m a.s.l., 15.v.2013, sweeping, leg. O. Kurina [see Table 1: MM-12] (mounted from alcohol, IZBE). ***Paratype.*** Male, same as holotype (mounted from alcohol, IZBE).

Diagnosis. *Anatella metae* sp. nov. is characterized by the presence of a strong posteroventral fringe on mid femora with a row of strong setae, absence of anterior spur on mid tibia, absence of setae on hind coxa basally. The new species is closest to *A. atlanticiliata* Chandler and Ribeiro but differs in characters of the male terminalia: ventral branch of the gonostylus about twice as long as the dorsal branch, dorsal branch of the gonostylus with long and slender medial prong, medial branch of the gonostylus slender and apically hooked.

Description. Male. Body length 2.7–2.9 mm (n = 2). ***Coloration.*** Head with vertex, frons, face and clypeus brown, mouthparts including palpus pale yellow. Scape, pedicel and base of first flagellomere yellow, rest of flagellum light brown. Thorax with scutum and lateral parts light brown. Thoracic setae yellowish to brown, with thicker setae darker than finer ones. Wing hyaline, unmarked with yellowish tinge. Halter with stem and knob pale yellow. Legs yellow, tarsi yellow but seem darker because of dense brown setae. All setae on legs brown, tibial spurs yellowish. Abdomen mainly brown with first two segments somewhat lighter. Abdominal vestiture brown. Terminalia light brown. ***Head.*** Ocelli two, very close to eye margins, with dark brown patches at anterior margin. Frontal furrow complete. Clypeus rectangular. Fourth flagellar segment about 2.5 times as long as wide, apical flagellar segment 2.5 times as long as wide basally. Flagellar segments with dense whitish setae about one third of segments' width. ***Thorax.*** Scutum covered with setae, with marginal and prescutellar setae stronger. Antepronotum with 2 strong and 10–15 weaker setae. Proepisternum with two strong and 2–3 weaker setae.

Anepisternum, katepisternum and anepimeron non-setose. Laterotergite with about 10 setae on upper half. Mediotergite non-setose. Scutellum with about 10 setae on upper surface. ***Wing.*** Length 2.39–2.70 mm, length to width 2.75–2.90. *C*, *R*, R_1, R_{4+5} setose, all other veins non-setose. *C* produced halfway between R_{4+5} and M_1. *r-m* about as long as *m-stem*. Posterior fork at the level of anterior fork or slightly before. *CuA* slightly sinuous. ***Legs.*** Ratio of femur to tibia for fore, mid and hind legs: 1.08–1.17; 0.97–1.00; 0.65–0.90. Ratio of tibia to basitarsus for fore, mid and hind legs: 0.96–1.00; 1.21–1.28; 1.41–1.77. Fore tibia with a spur 2.00 times of tibial maximum width. Mid tibia with anterior spur absent and posterior spur 2.27–2.40 times of tibial maximum width. Hind tibia with anterior spur 2.71–3.33 times and posterior spur 3.93–4.66 times of tibial maximum width. Strong posteroventral fringe of mid femora with row of strong setae. Hind coxa without basal setae. ***Terminalia*** (Fig. 7A–G). Gonocoxite ventrally with (1) V-shaped wide incision anteriorly, (2) posteromedial non-setose tapering projection with deep slit, and (3) posterolateral large apically setose lobes. Gonostylus divided into four branches (Fig. 7F–G). The ventral branch of the gonostylus elongated digitate, apical half setose and with one strong seta apically deviating from other setosity. Dorsal branch of the gonostylus about half length of the ventral branch, divided into two prongs: medial finger like bare prong and lateral large apically and basally setose prong. Medial branch of the gonostylus slightly shorter than dorsal branch, slender, apically hooked. Internal branch of the gonostylus membranous, convolute with anterior lamellae.

Etymology. The species is named after my daughter Liisa-Meta (born 9 October 2004), a keen naturalist who also participated in a trip to Georgia in 2017.

Remarks. There are about 50 *Anatella* Winnertz species known in the Holarctic region (cf. Fungus Gnats Online Authors 2021), the vast majority of which are adequately described and figured. In having posteroventral fringe of mid femora with strong setae and absence of anterior spur of mid tibia, *A. metae* sp. nov. resembles *A. atlanticiliata* Chandler & Ribeiro, 1995 known only from Madeira Island. Also, the male terminalia of both species share the general outline (cf. Chandler and Ribeiro 1995: fig. 27). However, *A. metae* differs in the structure of the gonostylus as follows: (1) ventral branch of the gonostylus twice as long as dorsal branch (only somewhat longer in *A. atlanticiliata*), (2) dorsal branch of the gonostylus with medial prong long, anchored to lateral prong basally (medial prong short, anchored to lateral prong subapically in *A. atlanticiliata*), and (3) medial branch of gonostylus slender, apically hooked (medial branch stout, slightly curved in *A. atlanticiliata*).

List of fungus gnat species of Georgia

Family Bolitophilidae

1. *Bolitophila* (*Bolitophila*) *austriaca* (Mayer, 1950)

Material. 2♀♀, SJ-7; 4♀♀, SJ-8. Total: 6♀♀.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

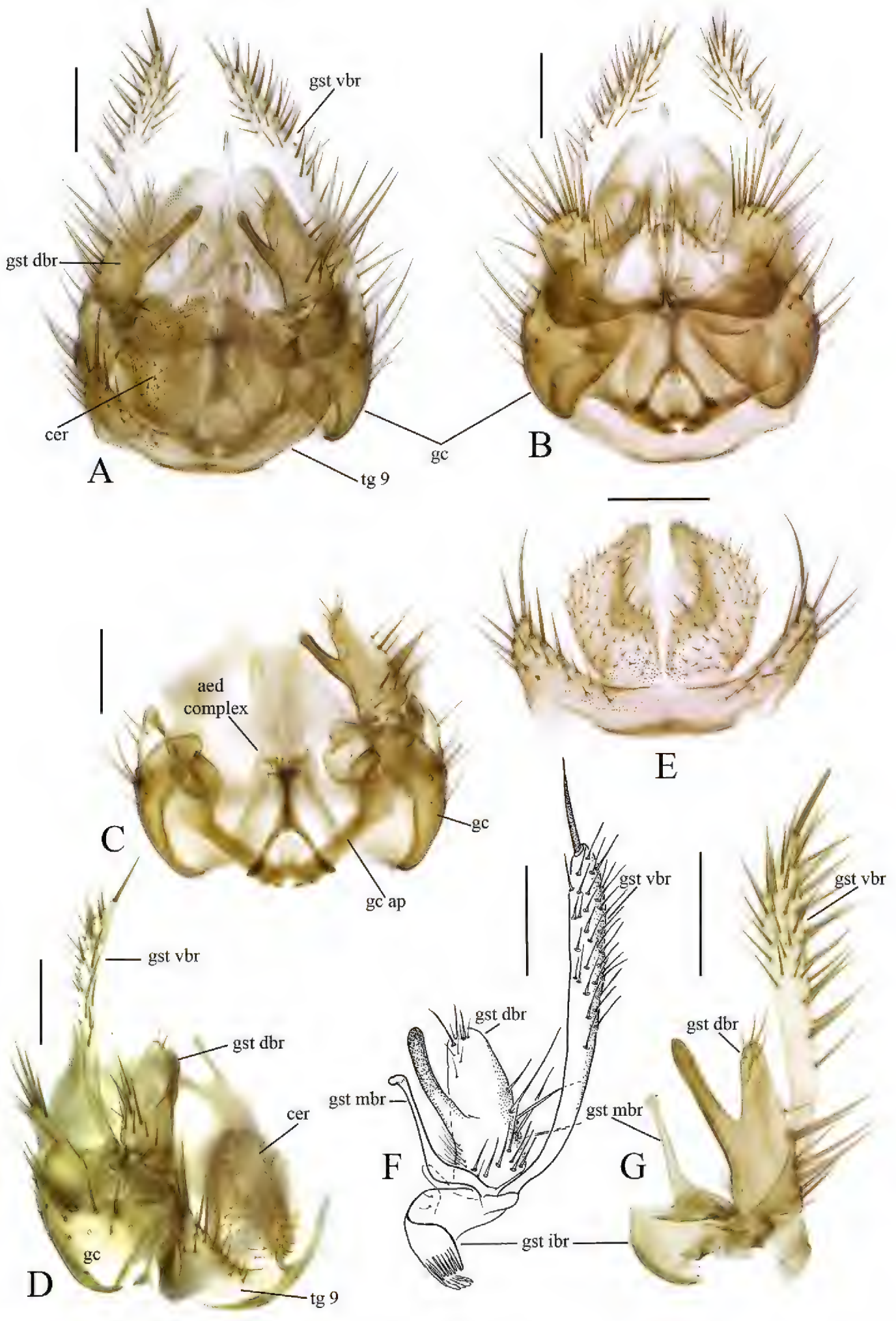

Figure 7. *Anatella metae* sp. nov. male terminalia **A** dorsal view **B** ventral view **C** dorsal view, cerci and tergite IX removed **D** lateral view **E** cerci and tergite IX, dorsal view **F, G** gonostylus, internal views from different angles. Abbreviations: aed complex – aedeagal complex, cer = cercus, gc = gonocoxite, gc ap = gonocoxal apodeme, gst dbr = dorsal branch of gonostylus, gst ibr = internal branch of gonostylus, gst mbr = medial branch of gonostylus, gst vbr = ventral branch of gonostylus, tg 9 = tergite IX. Scale bars: 0.1 mm.

2. *Bolitophila* (*Bolitophila*) *basicornis* (Mayer, 1951)
Fig. 9A

Material. 1♀, MM-1. Total: 1♀.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Palaearctic.

3. *Bolitophila* (*Bolitophila*) *cinerea* Meigen, 1818

Material. 1♂, MM-12. Total: 1♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Palaearctic.

4. *Bolitophila* (*Cliopisa*) *fumida* Edwards, 1941

Material. 1♂, SJ-9. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

Family Diadocidiidae

5. *Diadocidia* (*Adidocidia*) *valida* Mik, 1874

Material. 1♀, SJ-1; 1♂, SK-1. Total: 1♂ 1♀.
Distribution in Georgia. Shida Kartli, Samtskhe-Javakheti.
General distribution. Western Palaearctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

6. *Diadocidia* (*Diadocidia*) *ferruginosa* (Meigen, 1830)

Material. 1♂, SZS-3 (ZFMK); 2♂♂ 1♀, I-6; 2♂♂, I-9; 1♂, I-11; 1♂, A-1; 1♂, SJ-4; 1♂, SJ-7; 1♂, SJ-8; 4♂♂, SK-1. Total: 14♂♂ 1♀.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Shida Kartli, Imereti, Samtskhe-Javakheti.
General distribution. Holarctic.

7. *Diadocidia* (*Diadocidia*) *spinosula* Tollet, 1948
Fig. 8G

Material. 1♂, SZS-3 (IZBE); 2♂♂, SK-1; 2♂♂, SJ-1 (ZFMK); 1♂, SJ-2 (IUTG); 1♂ 1♀, SJ-4; 2♂♂, SJ-7; 4♂♂ 3♀♀, SJ-9. Total: 13♂♂ 4♀♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Shida Kartli, Samtskhe-Javakheti.

General distribution. Palaearctic.

Family Ditomyiidae

8. *Ditomyia fasciata* (Meigen, 1818)

Material. 2♂♂, I-9. Total: 2♂♂.

Distribution in Georgia. Imereti.

General distribution. Palaearctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

9. *Symmerus annulatus* (Meigen, 1830)
Fig. 8A

Material. 6♂♂, SZS-3 (2♂♂ ZFMK, 2♂♂ IUTG, 2♂♂ IZBE); 1♂, A-1; 1♂ 1♀, A-3; 1♀, I-3 (18.v–1.vi.2013); 1♂, I-6; 1♂ 1♀, I-9; 1♂, I-10; 2♂♂, I-11; 1♂, I-12; 4♂♂, SJ-1 (2♂♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 2♂♂, MM-12. Total: 20♂♂ 3♀♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

Family Keroplatidae
Subfamily Macrocerinae

10. *Macrocera centralis* Meigen, 1818

Material. 2♂♂, KK-1; 1♀, MM-14. Total: 2♂♂ 1♀.

Distribution in Georgia. Kvemo Kartli, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

11. *Macrocera crassicornis* Winnertz, 1863

Material. 1♂, A-1. Total: 1♂.

Distribution in Georgia. Adjara.
General distribution. Palaearctic.
Remarks. In Transcaucasia recorded from Armenia (Zaitzev 1994).

12. *Macrocera fasciata* Meigen, 1804

Material. 1♂, SZS-3 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Palaearctic.

13. *Macrocera fastuosa* Loew, 1869

Material. 2♂♂, A-1; 3♂♂, A-7. Total: 5♂♂.
Distribution in Georgia. Adjara.
General distribution. Europe.

14. *Macrocera lutea* Meigen, 1804

Material. 1 ♂, A-7; 1♂, KK-1. Total: 2♂♂.
Distribution in Georgia. Adjara, Kvemo Kartli.
General distribution. Palaearctic.
Remarks. In Transcaucasia recorded from Armenia (Joost and Plassmann 1985).

15. *Macrocera phalerata* Meigen, 1818

Material. 1♀, A-1; 1♀, A-6; 1♀, A-7. Total: 3♀♀.
Distribution in Georgia. Adjara.
General distribution. Palaearctic.

16. *Macrocera stigma* Curtis, 1837

Material. 1♂ 1♀, A-1; 4♂♂, A-7; 11♂♂ 3 ♀♀, I-6; 2♂♂, I-11; Total: 18♂♂ 8♀♀.
Distribution in Georgia. Adjara, Imereti.
General distribution. Palaearctic.

17. *Macrocera stigmoides* Edwards, 1925

Material. 44♂♂ 14♀♀, KK-1. Total: 44♂♂ 14♀♀.

Distribution in Georgia. Kvemo Kartli.
General distribution. Palaearctic.

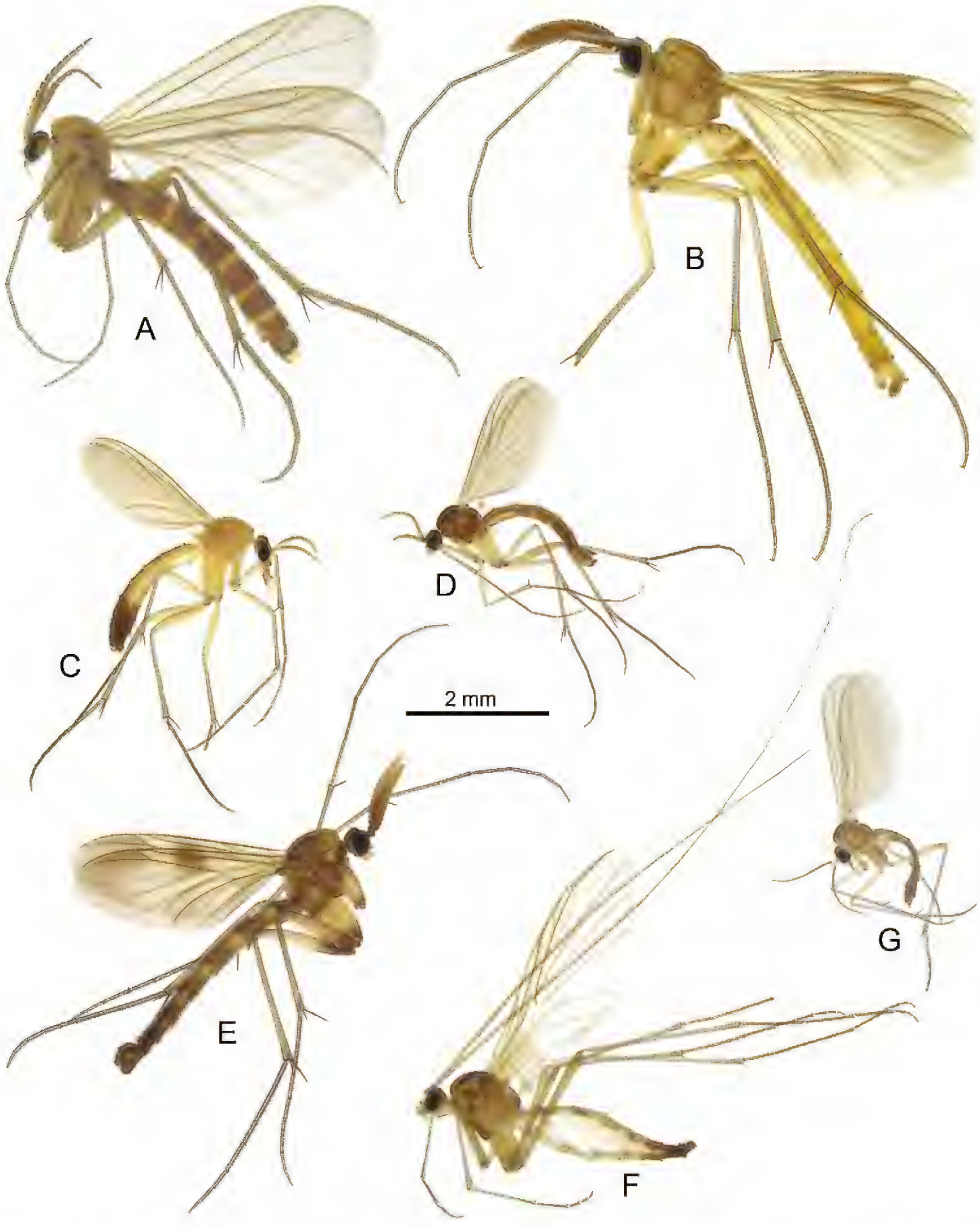

Figure 8. Habitus of Georgian fungus gnats of the families Ditomyiidae (**A**), Keroplatidae (**B–F**) and Diadocidiidae (**G**) **A** *Symmerus annulatus* (Meigen, 1830) **B** *Keroplatus testaceus* Dalman, 1818 **C** *Macrorrhyncha flava* Winnertz, 1846 **D** *Pyratula zonata* (Zetterstedt, 1855) **E** *Cerotelion racovitzai* Matile & Burghele-Balacesco, 1969 **F** *Macrocera vittata* Meigen, 1830 **G** *Diadocidia* (*Diadocidia*) *spinosula* Tollet, 1948.

18. *Macrocera vittata* Meigen, 1830
Fig. 8F

Material. 3♂♂, SJ-8; 2♂♂, MM-13; 1♂, MM-14. Total: 6♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Palaearctic.

Subfamily Keroplatinae
Tribe Keroplatini

19. *Cerotelion racovitzai* Matile & Burghele-Balacesco, 1969
Fig. 8E

Material. 6♂♂, A-3; 1♂, A-5; 3♂♂, A-7; 14♂♂ 1♀, I-6; 1♀, I-8; 3♂♂, I-9; 1♂, I-10; 2♂♂, I-11; 2♂♂, I-14; 1♂, I-15; 1♀, MM-7; 3♂♂, MM-8. Total: 36♂♂ 3♀♀.
Distribution in Georgia. Adjara, Imereti, Mtskhetha-Mthianethi.
General distribution. Western Palaearctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

20. *Cerotelion striatum* (Gmelin, 1790)

Material. 1♂, I-4. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Western Palaearctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

21. *Keroplatus testaceus* Dalman, 1818
Fig. 8B

Material. 2♂♂, I-6. Total: 2♂♂.
Distribution in Georgia. Imereti.
General distribution. Palaearctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

Tribe Orfeliini

22. *Isoneuromyia semirufa* (Meigen, 1818)

Georgian source. Zaitzev 1994: 82 (from Adjara).
Distribution in Georgia. Adjara.
General distribution. Holarctic.

Remarks. Zaitzev (1994) studied a single male specimen from Batumi collected in 1908. The black colour of the body as noted by Zaitzev (1994) for the studied material is characteristic to *I. semirufa*. The other European species have the thorax yellow to orange with or without longitudinal stripes; also, see the next species and discussion by Mantič and Ševčík (2017).

23. *Isoneuromyia czernyi* (Strobl, 1909)

Material. 1♂, A-1; 1♂, A-5; 1♀, A-7; 1♂ 1♀, I-6. Total: 3♂♂ 2♀♀.

Distribution in Georgia. Adjara, Imereti.

General distribution. Europe.

Remarks. All studied Georgian specimens correspond to the diagnosis including figures provided recently by Mantič and Ševčík (2017), i.e. (1) scutum with longitudinal dark stripes which are, however, almost fused in female specimens (thorax all dark brown to blackish in *I. semirufa*), (2) wing with a distinct subapical band (anteriorly infuscated in *I. semirufa*) and (3) male terminalia with medial tooth of the gonostylys larger than the lateral one (both in subequal size in *I. semirufa*). *I. czernyi* is a rare European species known from the Mediterranean region and Slovakia (Mantič and Ševčík 2017).

24. *Macrorrhyncha flava* Winnertz, 1846

Fig. 8C

Material. 2♂♂, K-4; 7♂♂ 3♀♀, K-5. Total: 9♂♂ 3♀♀.

Distribution in Georgia. Kakheti.

General distribution. Europe.

25. *Monocentrota lundstromi* Edwards, 1925

Material. 1♂, SZS-3 (IZBE). Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Europe.

26. *Neoplatyura modesta* (Winnertz, 1863)

Material. 1♂, K-2; 1♀, K-3. Total: 1♂ 1♀.

Distribution in Georgia. Kakheti.

General distribution. Europe.

27. *Neoplatyura nigricauda* (Strobl, 1893)

Material. 1♂, SZS-1. Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Europe.

28. *Orfelia discoloria* (Meigen, 1818)

Material. 7♂♂, SZS-3(2♂♂ ZFMK, 3♂♂ IUTG, 2♂♂ IZBE); 1♂, A-3; 1♂, SJ-1 (ZFMK); 1♂, MM-7. Total: 10♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Holarctic.

29. *Orfelia georgica* Kurina & Jürgenstein, 2013

Fig. 9B

Georgian source. Kurina and Jürgenstein 2013: 23 (fig. 2a–d)

Type material. 1♂, I-10 (holotype); 1♂, I-9 (paratype); 10♂♂, I-6 (paratypes). Additional material. 12♂♂ 4♀♀, A-1; 34♂♂, A-3; 7♂♂, A-5; 76♂♂, A-7; 1♂, A-8; 5♂♂, I-6; 12♂♂, I-11; 1♂, I-12; 5♂♂, SJ-1; 1♂, SJ-2 (ZFMK); 4♂♂, K-4; 1♂, K-6. Total: 171♂♂ 4♀♀.

Distribution in Georgia. Adjara, Imereti, Samtskhe-Javakheti, Kakheti.

General distribution. Georgia.

30. *Orfelia trifida* Kurina & Jürgenstein, 2013

Georgian source. Kurina and Jürgenstein 2013: 24 (fig. 3a–d).

Type material. 1♂, I-5 (holotype). Additional material. 35♂♂, SZS-3 (12♂♂ ZFMK, 12♂♂ IUTG, 11♂♂ IZBE). Total: 36♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.

General distribution. Georgia.

31. *Pyratula perpusilla* (Edwards, 1913)

Material. 16♂♂, SJ-4. Total: 16♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Europe.

Remarks. The *P. perpusilla* species-group includes at least seven closely related species in Europe, separable only by small details of male terminalia (Chandler and Blasco-

Zumeta 2001). The studied Georgian specimens have the ventroapical margin of the gonocoxite with setose lobe (= without asetose protuberance) that is shared by three species, viz. *P. perpusilla*, *P. alpicola* Chandler, 2001 and *P. oracula* Chandler, 1994. The aedeagal complex is considerably short (elongate in *P. oracula*) and the aedeagal sheath is interrupted medially on the ventral side (with complete bridge in *P. alpicola*). However, the Georgian specimens are slightly different from *P. perpusilla* as figured by Chandler and Blasco-Zumeta (2001: Figs 9–12) in having the distal dorsal corner of the aedeagal seath with a blunt protuberance that is otherwise typical to *P. alpicola*. The material was compared to that of *P. alpicola* and *P. oracula* from North Italy (cf. Kurina 2008b) and, pending a further molecular study of this species-group, is considered to be conspecific with *P. perpusilla*.

32. *Pyratula zonata* (Zetterstedt, 1855)

Fig. 8D

Material. 2♂♂, A-5; 1♂, I-6; 2♂♂, I-11; 2♂♂, SJ-1 (1♂ IUTG, 1♂ IZBE); 1♂ 1♀, SJ-2 (ZFMK); 1♂, SJ-3; 4♂♂, MM-11. Total: 13♂♂ 1♀.

Distribution in Georgia. Adjara, Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Europe.

33. *Urytalpa dorsalis* (Staeger, 1840)

Material. 1♂, SZS-3 (IZBE); 3♂♂, SJ-1 (1♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 1♂ 2♀♀, SJ-2 (1♂ 1♀ ZFMK, 1♀ IUTG). Total: 5♂♂ 2♀♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.

General distribution. Europe.

Subfamily Platyurinae

34. *Platyura marginata* Meigen 1804

Material. 1♂, K-6. Total: 1♂.

Distribution in Georgia. Kakheti.

General distribution. Palaearctic.

Family Mycetophilidae
Subfamily Mycomyinae

35. *Mycomya* (*Cymomya*) *circumdata* (Staeger, 1840)

Material. 2♂♂, SZS-3 (1♂ ZFMK, 1♂ IZBE). Total: 2♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Palaearctic.

36. *Mycomya* (*Neomycomya*) *fimbriata* (Meigen, 1818)

Material. 1♂, A-7. Total: 1♂.
Distribution in Georgia. Adjara.
General distribution. Holarctic, extending to the Oriental region.

37. *Mycomya* (*Mycomya*) *bialorussica* Landrock, 1925

Material. 1♂, SZS-3 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Europe.

38. *Mycomya* (*Mycomya*) *cinerascens* (Macquart, 1826)

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Holarctic, extending to the Oriental region.

39. *Mycomya* (*Mycomya*) *flavicollis* (Zetterstedt, 1852)

Material. 6♂♂, A-5; 1♂, A-7; 4♂♂, I-6; 2♂♂, SJ-3; 29♂♂, SJ-4; 1♂, SJ-9; 1♂, MM-7; 2♂♂, MM-14; 1♂, K-6. Total: 47♂♂.
Distribution in Georgia. Adjara, Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kakheti.
General distribution. Western Palaearctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

40. *Mycomya* (*Mycomya*) *griseovittata* (Zetterstedt, 1852)

Material. 1♂, SZS-3 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Holarctic.

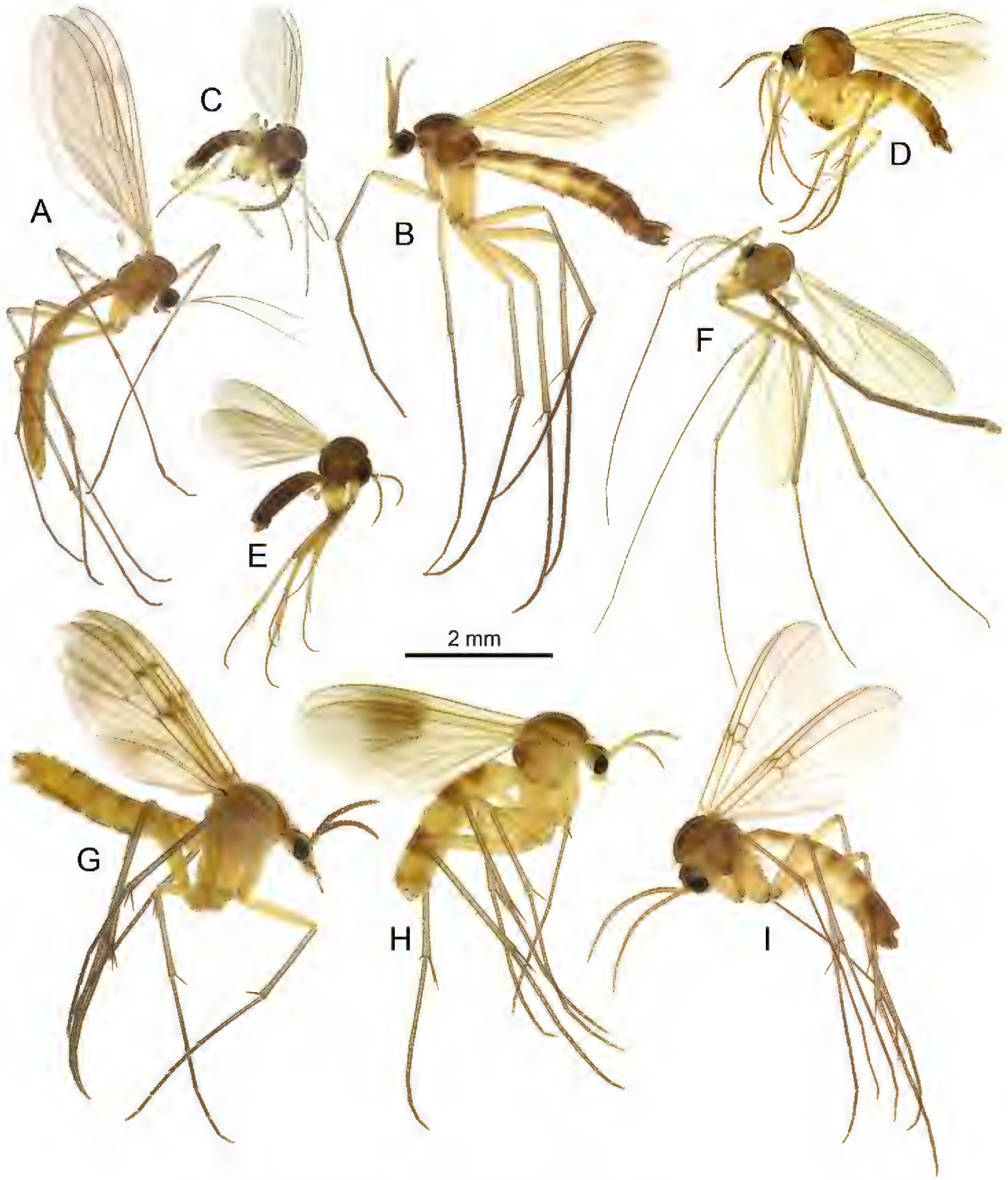

Figure 9. Habitus of Georgian fungus gnats of the families Bolitophilidae (**A**), Keroplatidae (**B**) and Mycetophilidae (**C–I**) **A** *Bolitophila* (*Bolitophila*) *basicornis* (Mayer, 1951) **B** *Orfelia georgica* Kurina & Jürgenstein, 2013 **C** *Acnemia nitidicollis* (Meigen, 1818) **D** *Monoclona rufilatera* (Walker, 1837) **E** *Azana* (*Azana*) *anomala* (Staeger, 1840) **F** *Phthinia hyrcanica* Zaitzev, 1984 **G** *Neoempheria striata* (Meigen, 1818) **H** *Neoempheria brevilineata* Okada, 1939 **I** *Mycomya* (*Mycomya*) *marginata* (Meigen, 1818).

41. *Mycomya* (*Mycomya*) *marginata* (Meigen, 1818)

Fig. 9I

Material. 3♂♂, I-6; 1♂, I-17; 1♂, SJ-3; 2♂♂, MM-8; 1♂, MM-12. Total: 8♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

42. *Mycomya* (*Mycomya*) *occultans* (Winnertz, 1863)

Material. 1♂, SJ-4. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic, extending to the Oriental region.

43. *Mycomya* (*Mycomya*) *tenuis* (Walker, 1856)

Material. 1♂, A-7; 1♂, SJ-4. Total: 2♂♂.
Distribution in Georgia. Adjara, Samtskhe-Javakheti.
General distribution. Palaearctic.

44. *Mycomya* (*Mycomya*) *tridens* (Lundström, 1911)

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Europe.

45. *Mycomya* (*Mycomya*) *tumida* (Winnertz, 1863)

Material. 1♂, SZS-4 (ZFMK); 1♂, I-11. Total: 2♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.
General distribution. Palaearctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

46. *Mycomya* (*Mycomya*) *winnertzi* (Dziedzicki, 1885)

Material. 1♂, SK-1; 1♂, SJ-8. Total: 2♂♂.
Distribution in Georgia. Shida Kartli, Samtskhe-Javakheti.
General distribution. Palaearctic, extending to the Oriental region.

47. *Mycomya* (*Mycomyopsis*) *affinis* (Staeger, 1840)

Material. 3♂♂, K-5; 1♂, K-6. Total: 4♂♂.
Distribution in Georgia. Kakheti.
General distribution. Palaearctic.

48. *Mycomya* (*Mycomyopsis*) *trilineata* (Zetterstedt, 1838)

Material. 5♂♂, K-6. Total: 5♂♂.

Distribution in Georgia. Kakheti.

General distribution. Palaearctic.

49. *Neoempheria brevilineata* Okada, 1939

Figs 9H, 10A–F

Material. 1♂, A-7; 2♂♂, I-6. Total: 3♂♂.

Distribution in Georgia. Adjara, Imereti.

General distribution. Palaearctic.

Remarks. The species description from Hokkaido (Japan) by Okada was supplemented by a black and white figure of the general habitus including wing venation and pattern (Okada 1939: plate XVI, fig. 3). The Georgian material was compared to that from Japan (1 ♂, JAPAN, Honshu, Ishikawa Perfecture, Kanazawa City, Kakuma Campus, window trap, 14.vii-21.vii.2006, Indah, T. leg.; Kjærandsen J. det., TSZD-JKJ-111335) and the small differences in male terminalia are considered to be within intraspecific variation. Figures of the male terminalia (Fig. 10A–F) are provided for the first time for the species.

50. *Neoempheria striata* (Meigen, 1818)

Fig. 9G

Material. 1♀, I-6; 1♂ 1♀, I-14. Total: 1♂ 2♀♀.

Distribution in Georgia. Imereti.

General distribution. Palaearctic.

Subfamily Sciophilinae

51. *Acnemia amoena* Winnertz, 1863

Material. 1♂, I-6. Total: 1♂.

Distribution in Georgia. Imereti.

General distribution. Palaearctic.

52. *Acnemia hyrcanica* Zaitzev, 1984

Material. 1♂, SZS-3 (ZFMK); 1♂, I-6. Total: 2♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.

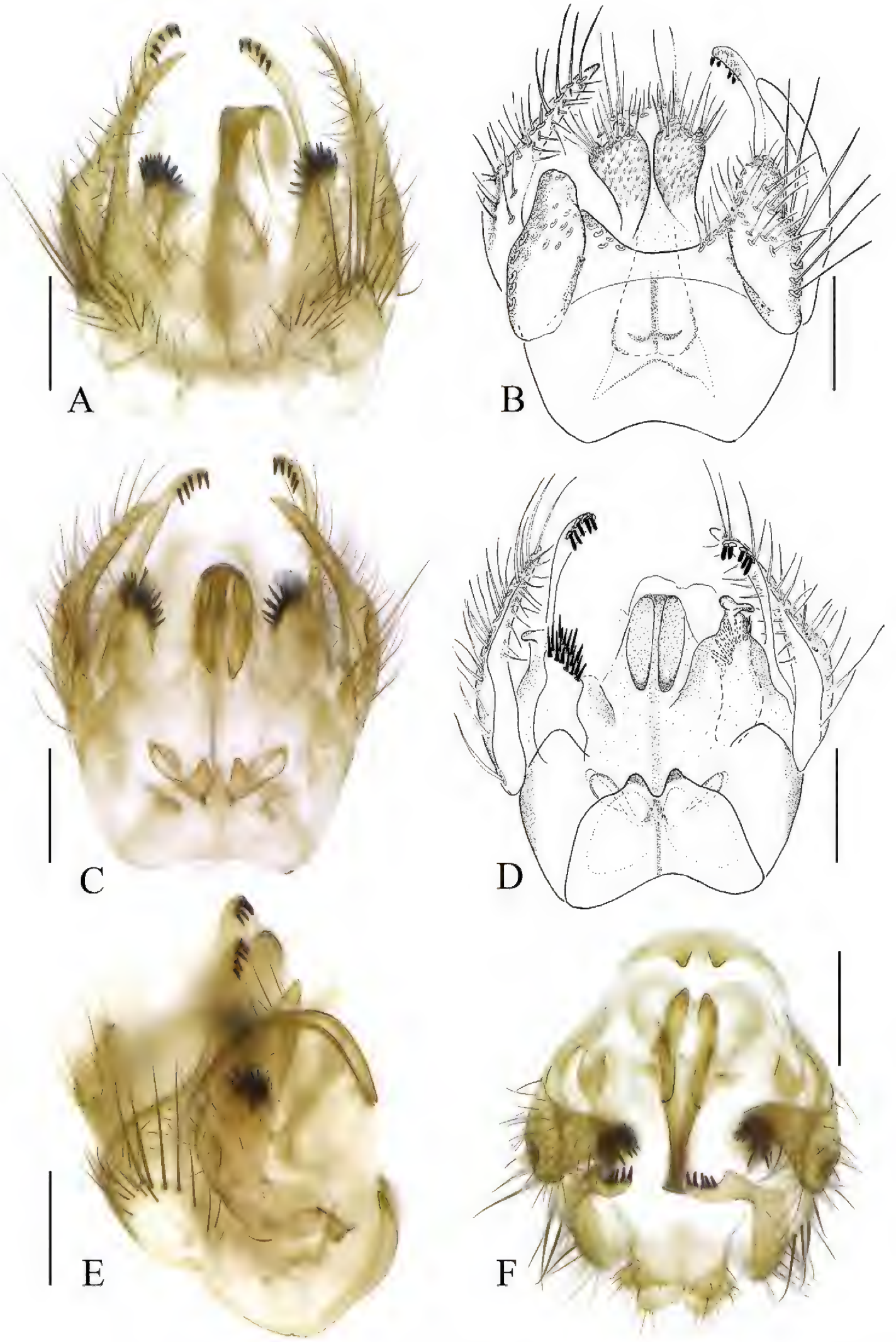

Figure 10. *Neoempheria brevilineata* Okada, 1939, male terminalia **A, B**, dorsal view **C, D** ventral view **E** lateral view **F** posterior view. Scale basr: 0.2 mm.

General distribution. Caucasia.

Remarks. Recorded earlier from North Caucasus and Azerbaijan (Zaitzev 1994).

53. *Acnemia nitidicollis* (Meigen, 1818)

Fig. 9C

Material. 4♂♂, SZS-3 (2♂♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 2♂♂, A-3; 2♂♂, A-7; 3♂♂ 1♀, K-4; 1♂, K-5; 1♂, K-6. Total: 13♂♂ 1♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Kakheti.

General distribution. Palaearctic.

54. *Allocotocera pulchella* (Curtis, 1837)

Fig. 11H

Material. 1♂, SJ-2 (ZFMK). Total: 1♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Holarctic.

55. *Anaclileia adjarica* Kurina, 2018

Georgian source. Kurina 2018: 156 (figs 2–5).

Type material. 1♂, A-1 (holotype); 3♂♂, A-1 (paratypes); 3♂♂ 3♀♀, A-3 (paratypes); 1♂, A-7 (paratype). Total: 8♂♂ 3♀♀.

Distribution in Georgia. Adjara.

General distribution. Georgia.

Remarks. The species was recently described from material collected from Mtirala and Kintrishi National Parks in Adjara (Kurina 2018)

56. *Azana* (*Azana*) *anomala* (Staeger, 1840)

Fig. 9E

Material. 1♀, SJ-3. Total: 1♀.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Europe.

57. *Azana* (*Jugazana*) *nigricoxa* Strobl, 1898

Material. 1♂, I-11. Total: 1♂.

Distribution in Georgia. Imereti.
General distribution. Europe.

58. *Megalopelma nigroclavatum* (Strobl, 1910)
Fig. 11F

Material. 2♂♂, I-6. Total: 2♂♂.
Distribution in Georgia. Imereti.
General distribution. Holarctic.

59. *Monoclona rufilatera* (Walker, 1837)
Fig. 9D

Material. 3♂♂, I-6; 1♂, SK-1. Total: 4♂♂.
Distribution in Georgia. Imereti, Shida Kartli.
General distribution. Holarctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 1994).

60. *Neuratelia caucasica* Zaitzev, 1994

Georgian source. Kurina et al. 2015: 116 (figs 11, 12, 16).
Material. 1♀, SZS-3 (IZBE); 2♀♀, SZS-4 (1♀ ZFMK, 1♀ IUTG); 3♂♂ 4♀♀, A-3; 1♂ 2♀♀, A-7; 2♂♂ 10♀♀, I-6; 1♂ 1♀, I-9; 2♂♂ 2♀♀, SK-1; 1♂, SJ-1 (IZBE); 4♂♂ 1♀, SJ-2 (2♂♂ ZFMK, 1♂ 1♀ IUTG, 1♂ IZBE); 2♂♂ 1♀, SJ-3; 1♂, KK-1. Total: 17♂♂ 24♀♀.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Imereti, Shida Kartli, Samtskhe-Javakheti, Kvemo Kartli.
General distribution. Caucasia: Russia (Krasnodarskiy region), Georgia.

61. *Phthinia hyrcanica* Zaitzev, 1984
Fig. 9F

Material. 1♂, MM-8; 1♂, K-4. Total: 2♂♂.
Distribution in Georgia. Mtskhetha-Mthianethi, Kakheti.
General distribution. Caucasia.
Remarks. Known only from type locality in Azerbaijan (Zaitzev 1994).

62. *Polylepta zonata* Zetterstedt, 1852

Material. 1♂, A-5. Total: 1♂.

Distribution in Georgia. Adjara.

General distribution. Europe, with scattered distribution (Kurina 2003, Chandler 2013).

63. *Sciophila fenestella* Curtis, 1837

Material. 1♂, I-6. Total: 1♂.

Distribution in Georgia. Imereti.

General distribution. Holarctic.

64. *Sciophila georgei* sp. nov.

Material. See in species description above.

Distribution in Georgia. Kakheti.

General distribution. Georgia.

65. *Sciophila nitens* (Winnertz, 1863)

Material. 1♂, SZS-3 (ZFMK); 1♂, SJ-1 (IZBE); 1♂, SJ-2 (IUTG). Total: 3♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.

General distribution. Holarctic.

Remarks. In Europe recorded from mountain areas (Kurina 2004, 2008b).

66. *Sciophila thoracica* Staeger, 1840

Material. 1♂, SZS-3 (IZBE); 1♂, SJ-2 (ZFMK). Total: 2♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.

General distribution. Holarctic.

67. *Syntemna morosa* Winnertz, 1863

Material. 1♂, I-6; 1♂, I-9. Total: 2♂♂.

Distribution in Georgia. Imereti.

General distribution. Europe.

Subfamily Gnoristinae

68. *Apolephthisa subincana* (Curtis, 1837)

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Western Palaearctic.

69. *Boletina borealis* Zetterstedt, 1852

Material. 1♂, SZS-2; 1♂, SZS-4 (ZFMK). Total: 2♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Palaearctic.

70. *Boletina digitata* Lundström, 1914

Material. 4♂♂, SZS-4 (2♂♂ ZFMK, 1♂ IUTG, 1♂ IZBE). Total: 4♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Western Palaearctic.

71. *Boletina dubia* (Meigen, 1804)

Material. 5♂♂, A-1; 3♂♂, A-3. Total: 8♂♂.
Distribution in Georgia. Adjara.
General distribution. Europe.
Remarks. The Georgian specimens have the ventral lobe of the gonostylus with a blunt small spine apically that is absent in studied specimens from Estonia and Sweden as well as in published figures (e.g. Landrock 1927, Hutson et al. 1980, Zaitzev 1994). Otherwise, the male terminalia including aedeagal complex do not have any substantial differences. Therefore, the Georgian material is considered to be conspecific pending further, more thorough study including that based on DNA sequencing.

72. *Boletina gripha* Dziedzicki, 1885

Material. 2♂♂, SZS-4 (1♂ ZFMK, 1♂ IZBE). Total: 2♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Palaearctic.

73. *Boletina moravica* Landrock, 1912

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Europe.

74. *Boletina nitida* Grzegorzek, 1885

Material. 10♂♂, SZS-3 (4♂♂ ZFMK, 4 ♂♂ IUTG, 2 ♂♂ IZBE); 1♂, SJ-1 (IZBE); 1♂, K-6. Total: 12♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti, Kakheti.

General distribution. Palaearctic.

75. *Boletina sciarina* Staeger, 1840

Material. 3♂♂, SZS-4 (1♂ ZFMK, 1♂ IUTG, 1♂ IZBE). Total: 3♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Holarctic.

76. *Boletina trivittata* (Meigen, 1818)

Fig. 11A

Material. 4♂♂, SJ-8; 5♂♂, SJ-9. Total: 9♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

77. *Coelosia flava* (Staeger, 1840)

Fig. 11I

Georgian source. Thormann et al. 2019: 279 (from Mtskhetha-Mthianethi).

Material. 1♂, SZS-3 (ZFMK); 8♂♂ 1♀, KK-1. Total: 9♂♂ 1♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Mtskhetha-Mthianethi, Kvemo Kartli.

General distribution. Europe.

78. *Docosia gilvipes* (Haliday in Walker, 1856)

Georgian source. Ševčík et al. 2020: 21

Material. 1♂, SZS-3 (ZFMK); 1♀, I-6. Total: 1♂ 1♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.
General distribution. Palaearctic.

79. *Docosia flavicoxa* Strobl, 1900

Georgian source. Ševčík et al. 2020: 21
Material. 3♂♂, K-5. Total: 3♂♂.
Distribution in Georgia. Kakheti.
General distribution. Europe.

80. *Docosia moravica* Landrock, 1916

Georgian source. Ševčík et al. 2020: 23.
Material. 1♂, SJ-2 (ZFMK). Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

81. *Docosia pannonica* Laštovka & Ševčík, 2006

Georgian source. Ševčík et al. 2020: 23
Material. 1♂, MM-3. Total: 1♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Europe.
Remarks. Known from Central Europe (Laštovka and Ševčík 2006).

82. *Docosia svanetica* Kurina in Ševčík et al. 2020

Georgian source. Ševčík et al. 2020: 17.
Material. 1♂, SZS-4 (holotype, ZFMK); 5♂♂, SZS-4; 2♂♂, SZS-3; 1♂, SJ-1. Total: 9♂♂ (see Ševčík et al. 2020 for depository of paratypes).
Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.
General distribution. Georgia.

83. *Ectrepesthoneura hirta* (Winnertz, 1846)

Fig. 11K

Material. 1♂, SJ-2 (ZFMK); 1♂, K-6. Total: 2♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Kakheti.
General distribution. Europe.

84. *Grzegorzekia collaris* (Meigen, 1818)
Fig. 11C

Georgian source. Thormann et al. 2019: 279 (from Mtskhetha-Mthianethi).

Material. 2♂♂, SZS-3 (1♂ ZFMK, 1♂ IZBE); 1♂, I-10; 1♂, SK-1. Total: 4♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Shida Kartli, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

85. *Lusitanoneura chandleri* (Caspers, 1991)

Material. 1♂, SZS-3 (ZFMK); 2♂♂, I-6. Total: 3♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.

General distribution. Europe.

Remarks. Known only from Grete and Cyprus (Caspers 1991, Chandler et al. 2006, Ribeiro and Chandler 2007).

86. *Palaeodocosia vittata* (Coquillett, 1901)

Material. 1♂, A-1; 1♂, I-6. Total: 2♂♂.

Distribution in Georgia. Adjara, Imereti.

General distribution. Holarctic.

87. *Synapha fasciata* Meigen, 1818
Fig. 11B

Material. 104♂♂, A-1; 54♂♂ 5♀♀, A-2; 70♂♂, A-3; 21♂♂ 2♀♀, A-4; 6♂♂ 4♀♀, A-5; 3♂♂, A-6; 173♂♂ 64♀♀, A-7; 14♂♂, I-1; 7♂♂, I-3 (18.v–1.vi.2013); 1♂, I-4; 138♂♂ 7♀♀, I-6; 25♂♂, I-7; 2♂♂ 3♀♀, I-9; 1♀, I-10; 8♂♂, I-11; 15♂♂, I-13; 2♂♂, I-16; 37♂♂, I-17; 1♂, MM-9. Total: 683♂♂ 86♀♀.

Distribution in Georgia. Adjara, Imereti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Subfamily Leiinae

88. *Clastobasis alternans* (Winnertz, 1863)

Material. 6♂♂ 2♀♀, SZS-3 (2♂♂ 1♀ ZFMK, 2♂♂ 1♀ IUTG, 2♂♂ IZBE); 1♂, K-4; 1♂, K-5. Total: 8♂♂ 2♀♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Kakheti.

General distribution. Palaearctic.

89. *Clastobasis loici* Chandler, 2001
Fig. 11D

Material. 3♂♂, K-4; 22♂♂, K-5. Total: 25♂♂.

Distribution in Georgia. Kakheti.

General distribution. Palaearctic.

Remarks. This very rare species was until recently recorded only from Channel Islands and Central Europe but Kurina (2020b) found it also from Japan. The record from Georgia suggests a wider distribution in the Palearctic region.

90. *Greenomyia mongolica* Laštovka & Matile, 1974

Material. 1♂, SJ-5. Total: 1♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

Remarks. A widely distributed Palaearctic species that has expanded its range in Europe during recent decades and is locally common also in anthropogenic environments (Kurina et al. 2011, *pers. observations*).

91. *Leia bimaculata* (Meigen, 1804)

Material. 1♂, SZS-3 (IZBE); 1♂, SK-1; 1♂, SJ-2 (ZFMK); 1♂, SJ-9; 1♂, MM-7. Total: 5♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Shida Kartli, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Remarks. Aedeagal complex of Georgian specimens is similar to that figured by Polevoi and Salmela (2016: fig. 7G) and gonostylus has a clear dorsal projection (Polevoi and Salmela 2016: fig. 7I, J).

92. *Leia cylindrica* (Winnertz, 1863)

Material. 1♂ 1♀, I-6; 1♂, K-6. Total: 2♂♂ 1♀.

Distribution in Georgia. Imereti, Kakheti.

General distribution. Western Palaearctic.

93. *Leia katae* sp. nov.

Material. See in species description above.

Distribution in Georgia. Samegrelo-Zemo-Svanethi, Shida-Kartli.
General distribution. Georgia.

94. *Leia piffardi* Edwards, 1925

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Europe, with scattered distribution.

95. *Leia winthemii* Lehmann, 1822
Fig. 11G

Material. 3♂♂, I-10; 1♂, SJ-8. Total: 4♂♂.
Distribution in Georgia. Imereti, Samtskhe-Javakheti.
General distribution. Holarctic, extending to the Oriental region.

96. *Novakia scatopsiformis* Strobl, 1893
Fig. 11J

Material. 1♂ 1♀, SJ-2 (1♀ ZFMK, 1♂ IZBE); 1♂, K-4; 1♀, K-5. Total: 2♂♂ 2♀♀.
Distribution in Georgia. Samtskhe-Javakheti, Kakheti.
General distribution. Western Palaearctic.
Remarks. According to the recent molecular study by Kaspřák et al. (2019: Fig. 1), the genus *Novakia* Strobl, 1893 apparently belongs to the subfamily Gnoristinae. However, as the authors did not have further discussion about this relationship, I follow the current classification in Fungus Gnats Online (http://www.sciaroidea.info/).

Subfamily Manotinae

97. *Manota unifurcata* Lundström, 1913
Fig. 11E

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Europe.
Remarks. A rare species, recorded from Central and Northern Europe with the south-eastern record on the Crimean Peninsula (Jaschhof et al. 2011). The current record from Georgia indicates a wider distribution in the Western Palaearctic.

Figure 11. Habitus of Georgian fungus gnats of the family Mycetophilidae **A** *Boletina trivittata* (Meigen, 1818) **B** *Synapha fasciata* Meigen, 1818 **C** *Grzegorzekia collaris* (Meigen, 1818) **D** *Clastobasis loici* Chandler, 2001 **E** *Manota unifurcata* Lundström, 1913 **F** *Megalopelma nigroclavatum* (Strobl, 1910) **G** *Leia winthemii* Lehmann, 1822 **H** *Allocotocera pulchella* (Curtis, 1837) **I** *Coelosia flava* (Staeger, 1840) **J** *Novakia scatopsiformis* Strobl, 1893 **K** *Ectrepesthoneura hirta* (Winnertz, 1846).

Subfamily Mycetophilinae
Tribe Exechiini

98. *Allodia lugens* (Wiedemann, 1817)

Material. 4♂♂, SZS-4 (2♂♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 7♂♂, SJ-3; 1♂, SJ-8; 1♂, MM-2; 1♂, MM-11; 1♂, MM-12. Total: 15♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Holarctic.

Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

99. *Allodia ornaticollis* (Meigen, 1818)

Material. 1♂, SJ-9; 1♂, MM-12; 1♂, MM-14; 1♂, K-1. Total: 4♂♂.

Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kakheti.

General distribution. Holarctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

100. *Allodia truncata* Edwards, 1921

Material. 1♂, SJ-8. Total: 1♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Holarctic.

101. *Allodiopsis domestica* (Meigen, 1830)

Fig. 12A

Material. 1♂, A-7; 2♂♂, MM-2; 1♂, MM-8. Total: 4♂♂.

Distribution in Georgia. Adjara, Mtskhetha-Mthianethi.

General distribution. Holarctic.

Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

102. *Allodiopsis korolevi* Zaitzev, 1982

Material. 1♂, SZS-4 (ZFMK); 1♂, SJ-9. Total: 2♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.

General distribution. Palaearctic.

103. *Allodiopsis rustica* (Edwards, 1941)

Material. 2♂♂, SJ-8; 1♂, MM-12. Total: 3♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Palaearctic.

104. *Anatella longisetosa* Dziedzicki, 1923
Fig. 12E

Material. 1♂, SZS-3 (ZFMK); 3♂♂, SZS-4 (1♂ ZFMK, 1♂ IUTG, 1♂ IZBE). Total: 4♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Europe.

105. *Anatella metae* sp. nov.

Material. See in species description above.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Georgia.

106. *Anatella simpatica* Dziedzicki, 1923

Material. 1♂, MM-2; 1♂, MM-12. Total: 2♂♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Holarctic.

107. *Brachycampta alternans* (Zetterstedt, 1838)

Material. 1♂, MM-14. Total: 1♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Holarctic.

108. *Brachycampta czernyi* (Landrock, 1912)

Material. 1♂, MM-2. Total: 1♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Holarctic.

109. *Brachycampta grata* (Meigen, 1830)

Material. 4♂♂, I-6; 1♂, I-10; 1♂, SJ-3; 1♂, MM-5; 1♂, MM-8. Total: 8♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

110. *Brachycampta foliifera* (Strobl, 1910)

Material. 1♂, MM-2. Total: 1♂.

Distribution in Georgia. Mtskhetha-Mthianethi.

General distribution. Holarctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

111. *Brachycampta neglecta* Edwards, 1925

Material. 1♂, I-6. Total: 1♂.

Distribution in Georgia. Imereti.

General distribution. Palaearctic.

112. *Brachycampta pistillata* (Lundström, 1911)

Material. 5♂♂, I-6. Total: 5♂♂.

Distribution in Georgia. Imereti.

General distribution. Holarctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

113. *Brachycampta protenta* Laštovka & Matile, 1974

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Holarctic.

114. *Brachycampta westerholti* Caspers, 1980

Material. 1♂, SJ-8. Total: 1♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Western Palaearctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

115. *Brevicornu auriculatum* (Edwards, 1925)

Material. 1♂, SZS-4 (ZFMK); 1♂, A-8. Total: 2♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara.

General distribution. Palaearctic.

116. *Brevicornu bellum* (Johannsen, 1912)

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Holarctic.

117. *Brevocornu fuscipenne* (Staeger, 1840)

Material. 1♂, I-6; 1♂, SJ-8. Total: 2♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti.

General distribution. Holarctic.

118. *Brevicornu griseicolle* (Staeger, 1840)

Fig. 12C

Material. 8♂♂, SZS-4 (3♂♂ ZFMK, 3♂♂ IUTG, 2♂♂ IZBE); 1♂, I-1; 2♂♂, I-6; 1♂, SK-1; 1♂, SJ-6; 4♂♂, SJ-7; 1♂, SJ-9; 1♂, MM-2; 1♂, MM-14; 1♂, K-1. Total: 21♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Shida Kartli, Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kakheti.

General distribution. Palaearctic.

119. *Brevicornu intermedium* (Santos Abreu, 1920)

Material. 1♂, I-11, 2♂♂, SJ-7; 2♂♂, SJ-8; 1♂, SJ-9; 1♂, MM-14. Total: 7♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Western Palaearctic.

120. *Brevicornu proximum* (Staeger, 1840)

Material. 2♂♂, I-6; 1♂, I-11; 1♂, SJ-8; 1♂, SJ-9; 1♂, MM-5; 2♂♂, MM-12; 1♂, MM-13. Total: 9♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

121. *Brevicornu sericoma* (Meigen, 1830)

Material. 1♂, SZS-3 (ZFMK); 1♂, SZS-4 (IZBE); 1♂, SJ-7; 4♂♂, SJ-8; 1♂, SJ-9; 3♂♂, KK-1; 1♂, MM-2; 1♂, MM-8; 1♂, MM-14; 1♂, K-2. Total: 15♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti, Kvemo Kartli, Mtskhetha-Mthianethi.

General distribution. Holarctic.

Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

122. *Cordyla brevicornis* (Staeger, 1840)

Material. 1♂, SZS-3 (IZBE); 5♂♂, SZS-4 (3♂♂ ZFMK, 2♂♂ IUTG); 1♂, A-5; 1♂, A-7; 1♂, I-6; 1♂, SJ-2; 1♂ (IZBE), KK-1; 1♂ 2♀♀, MM-12; 1♂, K-6. Total: 13♂♂ 2♀♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Imereti, Samtskhe-Javakheti, Kvemo Kartli, Mtskhetha-Mthianethi, Kakheti.

General distribution. Palaearctic.

123. *Cordyla crassicornis* Meigen, 1818

Material. 1♂, I-1; 1♂, I-2; 1♂, I-6; 1♂, I-11; 1♂, MM-14; 1♂, K-4; 1♂, K-6. Total: 7♂♂.

Distribution in Georgia. Imereti, Mtskhetha-Mthianethi, Kakheti.

General distribution. Palaearctic.

124. *Cordyla fasciata* Meigen, 1830

Material. 1♂, MM-7. Total: 1♂.

Distribution in Georgia. Mtskhetha-Mthianethi.

General distribution. Palaearctic.

125. *Cordyla fusca* Meigen, 1804

Material. 2♂♂, SJ-2 (1♂ ZFMK, 1♂ IZBE). Total: 2♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

126. *Cordyla fissa* Edwards, 1925
Fig. 12D

Material. 1♂, I-2; 1♂, I-3 (18.v–1.vi.2013); 1♂, SJ-7; 1♂, KK-1. Total: 4♂♂.
Distribution in Georgia. Imereti, Samtskhe-Javakheti, Kvemo Kartli.
General distribution. Palaearctic.

127. *Cordyla insons* Laštovka & Matile, 1974

Material. 2♂♂, SJ-2 (1♂ ZFMK, 1♂ IZBE). Total: 2♂♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

128. *Cordyla murina* (Winnertz, 1863)

Material. 2♂♂, I-3 (18.v–1.vi.2013 and 5–19.x.2013); 1♂, SJ-12. Total: 3♂♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

129. *Cordyla nitidula* Edwards, 1925

Material. 1♂, I-14; 1♂, K-5. Total: 2♂♂.
Distribution in Georgia. Imereti, Kakheti.
General distribution. Palaearctic.

130. *Cordyla pusilla* Edwards, 1925

Material. 3♂♂, SZS-3 (IZBE); 45♂♂, SZS-4 (16♂♂ ZFMK, 16♂♂ IUTG, 13♂♂ IZBE); 2♂♂, I-6; 2♂♂, K-4; 1♂, K-6. Total: 53♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Kakheti.
General distribution. Palaearctic.

131. *Exechia bicincta* (Staeger, 1840)

Material. 4♂♂, A-5; 3♂♂, A-7; 1♂, I-9; 1♂, I-10; 1♂, I-11; 1♂, I-12; 1♂, MM-8; 1♂, MM-14; 1♂, K-2. Total: 14♂♂.
Distribution in Georgia. Adjara, Imereti, Mtskhetha-Mthianethi, Kakheti.
General distribution. Holarctic.
Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

132. *Exechia dentata* Lundström, 1916

Material. 1♂, A-7. Total: 1♂.

Distribution in Georgia. Adjara.

General distribution. Europe.

133. *Exechia dorsalis* (Staeger, 1840)

Material. 1♂, SJ-7; 2♂♂, MM-12; 1♂, MM-13; 3♂♂, MM-14. Total: 7♂♂.

Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

134. *Exechia fusca* (Meigen, 1804)

Material. 2♂♂, I-6; 1♂, SJ-3; 2♂♂, MM-2; 1♂, MM-8; 2♂♂, MM-12. Total: 8♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Holarctic.

135. *Exechia repanda* Johannsen, 1912

Material. 2♂♂, K-4. Total: 2♂♂.

Distribution in Georgia. Kakheti.

General distribution. Holarctic.

136. *Exechia repandoides* Caspers, 1984

Material. 1♂, A-3; 1♂, I-3 (24.viii–7.ix.2013); 1♂, SJ-4; 1♂, MM-12; 1♂, K-5. Total: 5♂♂.

Distribution in Georgia. Adjara, Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kakheti.

General distribution. Europe

137. *Exechia seriata* (Meigen, 1830)

Material. 1♂, A-5. Total: 1♂.

Distribution in Georgia. Adjara.

General distribution. Palaearctic.

138. *Exechiopsis* (*Exechiopsis*) *dumitrescae* (Burghele-Balacesco, 1972)

Material. 1♂, I-12. Total: ♂.
Distribution in Georgia. Imereti.
General distribution. Palaearctic.

139. *Exechiopsis* (*Exechiopsis*) *furcata* (Lundström, 1911)

Material. 1♂ 1♀, MM-1. Total: 1♂ 1♀.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Europe.

140. *Exechiopsis* (*Exechiopsis*) *pseudindecisa* Laštovka & Matile, 1974

Material. 5♂♂, MM-2. Total: 5♂♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Palaearctic.
Remarks. In Transcaucasia recorded from Armenia (Joost and Plassmann 1985).

141. *Exechiopsis* (*Exechiopsis*) *magnicauda* (Lundström, 1911)

Material. 1♂, MM-8; 2♂♂, MM-11. Total: 3♂♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Europe.

142. *Notolopha cristata* (Staeger, 1840)

Material. 2♂♂, SJ-8; 1♂, SJ-9. Total: 3♂♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Holarctic.

143. *Pseudexechia tuomikoskii* Kjærandsen, 2009

Material. 1♂, I-10. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Europe.

144. *Rymosia affinis* Winnertz, 1863
Fig. 12B

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

145. *Rymosia fasciata* (Meigen, 1804)

Material. 1♂, I-9. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Europe.

146. *Stigmatomeria crassicornis* (Stannius, 1831)

Material. 1♂, A-5; 1♂, SK-1; 1♂, SJ-3; 5♂♂, SJ-8; 1♂, MM-2; 8♂♂, MM-8; 5♂♂, MM-11; 4♂♂, MM-12. Total: 26♂♂.
Distribution in Georgia. Adjara, Shida Kartli, Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Holarctic.

147. *Synplasta venosa* (Dziedzicki, 1910)

Material. 1♂, A-1. Total: 1♂.
Distribution in Georgia. Adjara.
General distribution. Europe.

148. *Tarnania fenestralis* (Meigen, 1838)

Material. 1♂, SJ-7. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

Tribe Mycetophilini

149. *Dynatosoma cochleare* Strobl, 1895

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

150. *Dynatosoma fuscicorne* (Meigen, 1818)

Material. 1♂, SZS-3 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Holarctic.

151. *Dynatosoma majus* Landrock, 1912

Material. 1♀, SJ-8; 4♂♂ 1♀, MM-8; 1♂, K-6. Total: 5♂♂ 2♀♀.
Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kakheti.
General distribution. Palaearctic.

152. *Dynatosoma nigromaculatum* Lundström, 1913

Material. 1♀, I-6. Total: 1♀.
Distribution in Georgia. Imereti.
General distribution. Palaearctic.

153. *Dynatosoma reciprocum* (Walker, 1848)
Fig. 12K

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

154. *Dynatosoma rufescens* (Zetterstedt, 1838)

Material. 1♂, K-6. Total: 1♂.
Distribution in Georgia. Kakheti.
General distribution. Europe.

155. *Epicypta limnophila* Chandler, 1981

Material. 1♂, K-5. Total: 1♂.
Distribution in Georgia. Kakheti.
General distribution. Europe.

156. *Epicypta scatophora* (Perris, 1849)
Fig. 12G

Material. 1♂, K-4; 7♂♂ 4♀♀, K-5. Total: 8♂♂ 4♀♀.
Distribution in Georgia. Kakheti.
General distribution. Palaearctic.

157. *Epicypta torquata* Matile, 1977

Material. 1♂, A-1; 1♂ 1♀, I-6; 1♂, MM-14; 1♂; K-2. Total: 4♂♂ 1♀.
Distribution in Georgia. Adjara, Imereti, Mtskhetha-Mthianethi, Kakheti.
General distribution. Western Palaearctic.

158. *Macrobrachius kowarzii* Dziedzicki, 1889

Material. 1♂, I-6; 1♂, K-4. Total: 2♂♂.
Distribution in Georgia. Imereti, Kakheti.
General distribution. Europe.

159. *Mycetophila adumbrata* Mik, 1884

Material. 1♂, SJ-8; 1♂, MM-13. Total: 2♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Europe.

160. *Mycetophila alea* Laffoon, 1965

Material. 1♂, A-3; 35♂♂, I-6; 1♂, I-9; 1♂, I-14; 1♂, SK-1; 1♂, SJ-1 (ZFMK); 3♂♂, SJ-4; 2♂♂, SJ-9; 2♂♂, MM-8; 2♂♂, MM-11; 1♂, KK-1. Total: 50♂♂.
Distribution in Georgia. Adjara, Imereti, Shida Kartli, Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kvemo Kartli.
General distribution. Holarctic.

161. *Mycetophila bialorussica* Dziedzicki, 1884

Material. 1♂, SZS-4 (ZFMK); 1♂, SJ-4; 1♂, SJ-8; 1♂, SJ-9. Total: 4♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.
General distribution. Palaearctic.

162. *Mycetophila blanda* Winnertz, 1863

Material. 2♂♂, I-6; 1♂, SJ-9. Total: 3♂♂.
Distribution in Georgia. Imereti, Samtskhe-Javakheti.
General distribution. Palaearctic.

163. *Mycetophila brevitarsata* (Laštovka, 1963)

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Palaearctic.
Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

164. *Mycetophila distigma* Meigen, 1830

Material. 1♂, SJ-8; 1♂, K-4; Total: 2♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Kakheti.
General distribution. Europe.

165. *Mycetophila edwardsi* Lundström, 1913

Material. 1♂, SJ-7; 3♂♂, SJ-8; 1♂, MM-8. Total: 5♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Europe.

166. *Mycetophila exstincta* Loew, 1869

Material. 2♂♂, SZS-3 (1♂ ZFMK, 1♂ IZBE); 1♂, I-14; 2♂♂, K-4. Total: 5♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Kakheti.
General distribution. Holarctic.

167. *Mycetophila formosa* Lundström, 1911

Material. 1♂, SJ-3; 1♂, SJ-8. Total: 2♂♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

168. *Mycetophila fungorum* (De Geer, 1776)

Material. 6♂♂ 3♀♀, SZS-3 (IZBE); 19♂♂ 10♀♀, SZS-4 (9♂♂ 5♂♀ZFMK, 8♂♂ 5♀♀ IUTG, 2♂♂ IZBE); 1♂, I-3 (29.vi–13.vii.2013); 5♂♂ 2♀♀, I-6; 1♀, I-9; 1♂, I-10; 1♀, SK-1; 2♂♂, SJ-1 (IZBE); 2♀♀, SJ-3; 1♂, SJ-4; 2♂♂ 2♀♀, SJ-7; 4♂♂ 4♀♀, SJ-8; 2♂♂ 4♀♀, SJ-9; 1♂, SJ-10; 2♂♂, MM-3; 1♀, MM-6; 2♂♂ 7♀♀, MM-7; 1♂ 1♀, MM-8; 2♂♂ 2♀♀, MM-11; 1♀, MM-12; 1♂, MM-14; 1♂ 2♀♀, KK-1; 1♂, K-4. Total: 54♂♂ 43♀♀.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Shida Kartli, Samtskhe-Javakheti, Mtskhetha-Mthianethi, Kvemo Kartli, Kakheti.

General distribution. Holarctic (extending to the Oriental region).

169. *Mycetophila confluens* Dziedzicki, 1884

Material. 4♂♂, SJ-8; 1♂, MM-2. Total: 5♂♂.

Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Holarctic.

170. *Mycetophila curviseta* Lundström, 1911

Material. 4♂♂, SZS-4 (2♂♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 1♂, I-3 (1–15.vi.2013); 3♂♂, I-6; 2♂♂, I-9; 1♂, I-12; 2♂♂, SK-1; 6♂♂, SJ-8; 5♂♂, SJ-9; 1♂, KK-1; 3♂♂, MM-8; 1♂, MM-13; 7♂♂, MM-14; 3♂♂, K-4; 1♂, K-5. Total: 40♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Shida Kartli, Samtskhe-Javakheti, Kvemo Kartli, Mtskhetha-Mthianethi, Kakheti.

General distribution. Palaearctic.

171. *Mycetophila deflexa* Chandler, 2001

Material. 2♂♂, SZS-3 (1♂ ZFMK, 1♂ IZBE); 1♂, SZS-4 (IUTG). Total: 3♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Europe.

172. *Mycetophila dentata* Lundström, 1915

Material. 1♂, K-4. Total: 1♂.

Distribution in Georgia. Kakheti.

General distribution. Holarctic.

173. *Mycetophila gentilicia* Zaitzev, 1999

Material. 1♂, SJ-8. Total: 1♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

174. *Mycetophila gibbula* Edwards, 1925

Material. 1♂, SJ-3. Total: 1♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

175. *Mycetophila hetschkoi* Landrock 1918

Material. 1♂, SZS-4 (ZFMK); 1♂, MM-11; 3♂♂, MM-14. Total: 5♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

176. *Mycetophila hyrcania* Laštovka & Matile, 1969

Material. 1♂, SZS-3 (ZFMK); 1♂, SJ-6; 1♂, KK-1; 3♂♂, K-4. Total: 6♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti, Kvemo Kartli, Kakheti.

General distribution. Western Palaearctic.

177. *Mycetophila ichneumonea* Say, 1823

Georgian source. Jürgenstein et al. 2015: 30.

Material. 6♂♂, SZS-4 (3♂♂ ZFMK, 2♂♂ IUTG, 1♂ IZBE); 1♂, SK-1; 1♂, SJ-2 (IZBE); 1♂, SJ-5; 3♂♂, SJ-8; 1♂, SJ-9. Total: 13♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Shida Kartli, Samtskhe-Javakheti.

General distribution. Holarctic. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

178. *Mycetophila idonea* Laštovka, 1972

Georgian source. Jürgenstein et al. 2015: 31–32.

Material. 5♂♂, SZS-3 (2♂♂ ZFMK, 2♂♂ IUTG, 1♂ IZBE); 2♂♂, A-1; 1♂, A-3; 1♂, A-7; 10♂♂, I-6; 1♂, I-10; 1♂, SK-1; 1♂, SJ-1 (IZBE); 1♂, KK-1; 1♂, MM-7; 1♂, MM-8; 4♂♂, MM-11; 1♂, MM-14; 1♂, K-4; 1♂, K-5; 1♂, K-6. Total: 33♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Imereti, Shida Kartli, Samtskhe-Javakheti, Kvemo Kartli, Mtskhetha-Mthianethi, Kakheti.

General distribution. Europe.

179. *Mycetophila lamellata* Lundström, 1911

Material. 4♂♂, SJ-7; 1♂, SJ-8; 2♂♂, MM-14. Total: 7♂♂.

Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Europe.

180. *Mycetophila lastovkai* Caspers, 1984

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Europe.

181. *Mycetophila luctuosa* Meigen, 1830

Material. 1♂, SZS-4 (ZFMK); 1♂, I-10; 1♂, MM-4. Total: 3♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Mtskhetha-Mthianethi.

General distribution. Holarctic.

182. *Mycetophila lunata* Meigen, 1804

Material. 1♂, A-1; 1♂, MM-12. Total: 2♂♂.

Distribution in Georgia. Adjara, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

183. *Mycetophila magnicauda* Strobl, 1895

Fig. 12F

Material. 1♂, SJ-4; 4♂♂, SJ-8; 1♂, SJ-9. Total: 6♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

184. *Mycetophila marginata* Winnertz, 1863

Material. 1♂, I-6; 1♂, I-10; 4♂♂, SJ-7; 5♂♂, SJ-8; 2♂♂, SJ-9; 2♂♂, MM-2. Total: 15♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Europe.

185. *Mycetophila morosa* Winnertz, 1863

Material. 1♂, MM-14. Total: 1♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Holarctic.

186. *Mycetophila nigrofusca* Dziedzicki, 1884

Material. 1♂, I-5; 1♂, MM-14. Total: 2♂♂.

Distribution in Georgia. Imereti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

187. *Mycetophila ocellus* Walker, 1848

Material. 1♂, I-10; 3♂♂, SJ-8; 2♂♂, MM-12. Total: 6♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Holarctic.

188. *Mycetophila occultans* Lundström, 1913

Material. 6♂♂, SZS-3 (2♂♂ ZFMK, 2♂♂ IUTG, 2♂♂ IZBE);1♂, I-6; 1♂, SJ-8; 1♂, SJ-9; 57♂♂, MM-13; 1♂, MM-14. Total: 67♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Europe.

189. *Mycetophila ornata* Stephens, 1829

Material. 2♂♂, SJ-8; 1♂, SJ-9; 2♂♂, MM-12. Total: 5♂♂.

Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Remarks. In Transcaucasia recorded from Azerbaijan (Zaitzev 2003).

190. *Mycetophila pictula* Meigen, 1830

Material. 2♂♂, SJ-9. Total: 2♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Holarctic.

191. *Mycetophila pumila* Winnertz, 1863

Material. 1♂, SZS-4 (ZFMK); 2♂♂, A-1; 2♂♂, A-3; 3♂♂, I-6; 1♂, I-9; 1♂, I-10; 1♂, MM-11; 4♂♂, MM-14; 1♂, K-2. Total: 16♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Imereti, Mtskhetha-Mthianethi, Kakheti.

General distribution. Palaearctic.

192. *Mycetophila pseudoforcipata* Zaitzev, 1998

Material. 1♂, SJ-8; 1♂, SJ-9. Total: 2♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Palaearctic.

193. *Mycetophila ruficollis* Meigen, 1818

Georgian source. Jürgenstein et al. 2015: 33.

Material. 1♂, K-6. Total: 1♂.

Distribution in Georgia. Kakheti.

General distribution. Palaearctic.

194. *Mycetophila scotica* Edwards, 1941

Material. 1♂, I-12. Total: 1♂.

Distribution in Georgia. Imereti.

General distribution. Holarctic.

195. *Mycetophila sigillata* Dziedzicki, 1884

Material. 3♂♂, I-6; 2♂♂, SJ-4. Total: 5♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti.

General distribution. Holarctic.

Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

196. *Mycetophila sigmoides* Loew, 1869

Material. 1♂, I-6. Total: 1♂.

Distribution in Georgia. Imereti.

General distribution. Holarctic.

197. *Mycetophila signata* Meigen, 1830

Material. 10♂♂, I-6; 1♂, I-14; 1♂, SJ-4. Total: 12♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti.

General distribution. Palaearctic.

198. *Mycetophila signatoides* Dziedzicki, 1884

Material. 1♂, SZS-4 (ZFMK); 2♂♂, I-6. Total: 3♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.

General distribution. Western Palaearctic (see also comment in Kjærandsen et al. 2007).

199. Mycetophila sordida van der Wulp, 1874

Material. 1♂, SZS-3 (ZFMK); 3♂♂, SZS-4 (1♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 2♂♂, I-6; 1♂, SJ-4; 4♂♂, SJ-8; 1♂, SJ-9; 6♂♂, KK-1; 1♂, MM-11. Total: 19♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Samtskhe-Javakheti, Kvemo Kartli, Mtskhetha-Mthianethi.

General distribution. Holarctic.

200. *Mycetophila strigatoides* Landrock, 1927

Material. 4♂♂, SZS-3 (2♂♂ ZFMK, 2♂♂ IZBE); 42♂♂, SZS-4 (13♂♂ ZFMK, 16♂♂ IUTG, 13♂♂ IZBE); 1♂, I-10; 1♂, SJ-1 (IZBE); 1♂, SJ-2 (ZFMK). Total: 49♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Samtskhe-Javakheti.

General distribution. Palaearctic.

201. *Mycetophila stylata* (Dziedzicki, 1884)

Material. 9♂♂, SJ-8; 4♂♂, SJ-9. Total: 13♂♂.

Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

202. *Mycetophila sublunata* Zaitzev, 1998

Material. 1♂, SJ-9. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Europe.

203. *Mycetophila subsigillata* Zaitzev, 1999

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

204. *Mycetophila sumavica* (Laštovka, 1963)

Material. 1♂, I-10. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Europe.

205. *Mycetophila trinotata* Staeger, 1840

Material. 1♂, SZS-3 (ZFMK); 5♂♂, MM-13; 12♂♂, MM-14; 1♂, K-2. Total: 19♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Mtskhetha-Mthianethi, Kakheti.
General distribution. Holarctic.

206. *Mycetophila uliginosa* Chandler, 1988

Material. 1♂, SZS-4 (ZFMK). Total: 1♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi.
General distribution. Europe.

207. *Mycetophila unicolor* Stannius, 1831

Material. 3♂♂, A-1; 2♂♂, A-7; 1♂, SJ-2 (ZFMK). Total: 6♂♂.

Distribution in Georgia. Adjara, Samtskhe-Javakheti.
General distribution. Western Palaearctic.

208. *Phronia basalis* Winnertz, 1863

Material. 1♂, MM-10. Total: 1♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Western Palaearctic.

209. *Phronia biarcuata* (Becker, 1908)

Material. 1♂, SJ-8; 1♂, SJ-9; 1♂, MM-12. Total: 3♂♂.
Distribution in Georgia. Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Holarctic.
Remarks. In Transcaucasia recorded from Armenia (Joost and Plassmann 1985).

210. *Phronia conformis* (Walker, 1856)

Material. 2♂♂, I-6. Total: 2♂♂.
Distribution in Georgia. Imereti.
General distribution. Holarctic.

211. *Phronia electa* Dziedzicki, 1889

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

212. *Phronia exigua* (Zetterstedt, 1852)

Material. 2♂♂, MM-2; 1♂, MM-8. Total: 3♂♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Holarctic.
Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

213. *Phronia humeralis* Winnertz, 1863

Material. 1♂, A-7; 1♂, SJ-4; 2♂♂, SJ-8; 2♂♂, SJ-9. Total: 6♂♂.

Distribution in Georgia. Adjara, Samtskhe-Javakheti.
General distribution. Palaearctic.

214. *Phronia forcipata* Winnertz, 1863

Material. 1♂, SZS-4 (ZFMK); 8♂♂, I-6. Total: 9♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti.
General distribution. Palaearctic.
Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

215. *Phronia nitidiventris* (van der Wulp, 1859)

Material. 2♂♂, I-6; 1♂, I-9; 1♂, I-10. Total: 4♂♂.
Distribution in Georgia. Imereti.
General distribution. Palaearctic.
Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

216. *Phronia notata* Dziedzicki, 1889

Material. 1♂, SJ-8. Total: 1♂.
Distribution in Georgia. Samtskhe-Javakheti.
General distribution. Palaearctic.

217. *Phronia obtusa* Winnertz, 1863

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Holarctic.

218. *Phronia petulans* Dziedzicki, 1889

Material. 6♂♂, MM-12. Total: 6♂♂.
Distribution in Georgia. Mtskhetha-Mthianethi.
General distribution. Holarctic.

219. *Phronia signata* Winnertz, 1863

Material. 9♂♂, I-6; 1♂, I-9; 4♂♂, I-10; 1♂, SJ-9; 8♂♂, MM-8; 1♂, MM-9. Total: 24♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Palaearctic.

Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

220. *Phronia tenuis* Winnertz, 1863

Fig. 12H

Material. 2♂♂, SZS-4 (1♂ ZFMK, 1♂ IZBE); 1♂, I-10; 1♂, MM-12. Total: 4♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Mtskhetha-Mthianethi.

General distribution. Holarctic, extending to the Oriental region.

221. *Phronia triangularis* Winnertz, 1863

Material. 1♂, I-6; 1♂, SJ-8; 1♂, MM-2; 1♂, MM-8. Total: 4♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Mtskhetha-Mthianethi.

General distribution. Western Europe.

222. *Platurocypta testata* (Edwards, 1925)

Material. 1♂, I-3 (13–27.vi.2013); 2♂♂, SJ-4; 1♂, K-4. Total: 4♂♂.

Distribution in Georgia. Imereti, Samtskhe-Javakheti, Kakheti.

General distribution. Holarctic.

223. *Platurocypta punctum* (Stannius, 1831)

Material. 1♂, K-2. Total: 1♂.

Distribution in Georgia. Kakheti.

General distribution. Holarctic.

224. *Sceptonia cryptocauda* Chandler, 1991

Material. 18♂♂, MM-13; 18♂♂, MM-14; 8♂♂, K-2. Total: 44♂♂.

Distribution in Georgia. Mtskhetha-Mthianethi; Kakheti.

General distribution. Western Palaearctic.

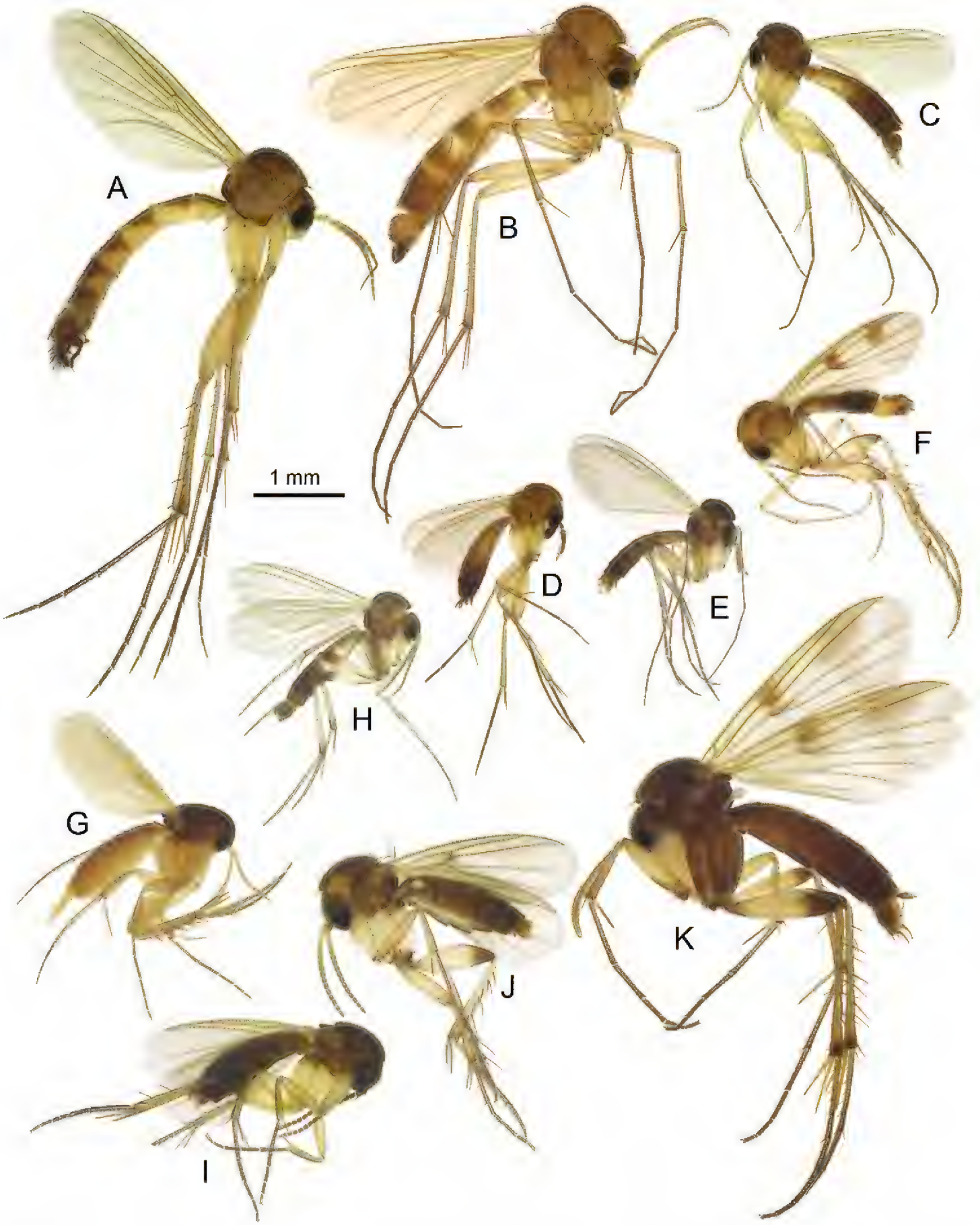

Figure 12. Habitus of Georgian fungus gnats of the family Mycetophilidae **A** *Allodiopsis domestica* (Meigen, 1830) **B** *Rymosia affinis* Winnertz, 1863 **C** *Brevicornu griseicolle* (Staeger, 1840) **D** *Cordyla fissa* Edwards, 1925 **E** *Anatella longisetosa* Dziedzicki, 1923 **F** *Mycetophila magnicauda* Strobl, 1895 **G** *Epicypta scatophora* (Perris, 1849) **H** *Phronia tenuis* Winnertz, 1863 **I** *Sceptonia tenuis* Edwards, 1925 **J** *Zygomyia humeralis* (Wiedemann, 1817) **K** *Dynatosoma reciprocum* (Walker, 1848).

225. *Sceptonia demeijerei* Bechev, 1997

Material. 1♂, MM-5. Total: 1♂.

Distribution in Georgia. Mtskhetha-Mthianethi.

General distribution. Europe.

226. *Sceptonia flavipuncta* Edwards, 1925

Material. 1♂, SZS-3 (IZBE); 6♂♂, I-6; 3♂♂, I-9; 2♂♂, I-14; 1♂, SJ-2 (ZFMK); 1♂, KK-1; 10♂♂, MM-13; 14♂♂, MM-14. Total: 38♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Samtskhe-Javakheti, Kvemo Kartli, Mtskhetha-Mthianethi.

General distribution. Europe.

227. *Sceptonia humerella* Edwards, 1925

Material. 1♂, SJ-3; 1♂, SJ-4. Total: 2♂♂.

Distribution in Georgia. Samtskhe-Javakheti.

General distribution. Europe.

228. *Sceptonia membranacea* Edwards, 1925

Material. 5♂♂, MM-13. Total: 5♂♂.

Distribution in Georgia. Mtskhetha-Mthianethi.

General distribution. Europe.

229. *Sceptonia nigra* (Meigen, 1804)

Material. 2♂♂, A-3; 1♂, MM-13; 14♂♂, MM-14; 7♂♂, K-2. Total: 24♂♂.

Distribution in Georgia. Adjara, Mtskhetha-Mthianethi, Kakheti.

General distribution. Palaearctic.

230. *Sceptonia tenuis* Edwards, 1925

Fig. 12 I

Material. 1♂, SK-1; 3♂♂, SJ-2 (1♂ ZFMK, 1♂ IUTG, 1♂ IZBE); 2♂♂, MM-12. Total: 6♂♂.

Distribution in Georgia. Shida Kartli, Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Europe.

231. *Trichonta aberrans* Lundström, 1911

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Europe.

232. *Trichonta atricauda* (Zetterstedt, 1852)

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Holarctic.

233. *Trichonta clavigera* Lundström, 1913

Material. 2♂♂, I-6; 1♂, KK-1; 1♂, MM-12. Total: 4♂♂.
Distribution in Georgia. Imereti, Kvemo Kartli, Mtskhetha-Mthianethi.
General distribution. Palaearctic.

234. *Trichonta falcata* Lundström, 1911

Material. 2♂♂, A-7. Total: 2♂♂.
Distribution in Georgia. Adjara.
General distribution. Holarctic.
Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

235. *Trichonta fragilis* Gagne, 1981

Material. 1♂, I-6. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Holarctic.

236. *Trichonta perspicua* van der Wulp, 1881

Material. 1♂, I-17. Total: 1♂.

Distribution in Georgia. Imereti.
General distribution. Holarctic.

237. *Trichonta subterminalis* Zaitzev & Menzel, 1996

Material. 4♂♂, I-6; 1♂, SK-1. Total: 5♂♂.
Distribution in Georgia. Imereti, Shida Kartli.
General distribution. Palaearctic.

238. *Trichonta trifida* Lundström, 1909

Material. 1♂, I-10. Total: 1♂.
Distribution in Georgia. Imereti.
General distribution. Northern Europe.
Remarks. Kjæranden and Søli (2020) recently reinstated the species and provided detailed figures of the male terminalia of the allied species.

239. *Trichonta vitta* (Meigen, 1830)

Material. 9♂♂, I-6; 1♂, SJ-4; 1♂, SJ-8; 2♂♂, K-4; 2♂♂, K-5. Total: 15♂♂.
Distribution in Georgia. Imereti, Samtskhe-Javakheti, Kakheti.
General distribution. Holarctic.

240. *Trichonta vulgaris* Loew, 1869

Material. 1♂, SZS-4 (ZFMK); 2♂♂, SJ-8; 1♂, SJ-9. Total: 4♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti.
General distribution. Holarctic.
Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

241. *Zygomyia humeralis* (Wiedemann, 1817)

Fig. 12J

Material. 1♂, SZS-3 (IZBE); 5♂♂, SZS-4 (2♂♂ ZFMK, 2♂♂ IUTG, 1♂ IZBE); 1♂, SJ-4; 2♂♂, MM-12; 1♂, MM-13; 3♂♂, MM-14. Total: 13♂♂.
Distribution in Georgia. Samegrelo-Zemo Svanethi, Samtskhe-Javakheti, Mtskhetha-Mthianethi.
General distribution. Europe.

242. *Zygomyia pseudohumeralis* Caspers, 1980

Material. 1♂, SJ-2 (ZFMK); 1♂, SJ-4; 1♂, SJ-7; 1♂, KK-1; 5♂♂, K-4. Total: 9♂♂.

Distribution in Georgia. Samtskhe-Javakheti, Kvemo Kartli, Kakheti.

General distribution. Palaearctic.

243. *Zygomyia semifusca* (Meigen, 1818)

Material. 1♂, SZS-4 (ZFMK); 1♂, I-6; 1♂, SJ-3; 1♂, SJ-5. Total: 4♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Imereti, Samtskhe-Javakheti.

General distribution. Holarctic.

244. *Zygomyia setosa* Barendrecht, 1938

Material. 1♂, K-4. Total: 1♂.

Distribution in Georgia. Kakheti.

General distribution. Europe.

Remarks. A very rare species with a scattered distribution in Europe: recorded from the Netherlands, Germany and Switzerland (Chandler 2013). There is an unpublished record also from Estonia (personal observation).

245. *Zygomyia valida* Winnertz 1863

Material. 10♂♂, SZS-4 (4♂♂ ZFMK, 3♂♂ IUTG, 3♂♂ IZBE). Total: 10♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi.

General distribution. Palaearctic.

246. *Zygomyia vara* (Staeger, 1840)

Material. 1♂, SZS-2; 1♂, SZS-4 (ZFMK); 1♂, A-1; 2♂♂, SJ-9. Total: 5♂♂.

Distribution in Georgia. Samegrelo-Zemo Svanethi, Adjara, Samtskhe-Javakheti.

General distribution. Holarctic.

Remarks. Listed to occur in Transcaucasia without further details (Zaitzev 2003).

Discussion

This is the first attempt to provide a synoptic list of Sciaroidea species of the Transcaucasian region. However, the recorded 246 species (245 from original study + one from literature data) of fungus gnats are the result of a preliminary survey, while further

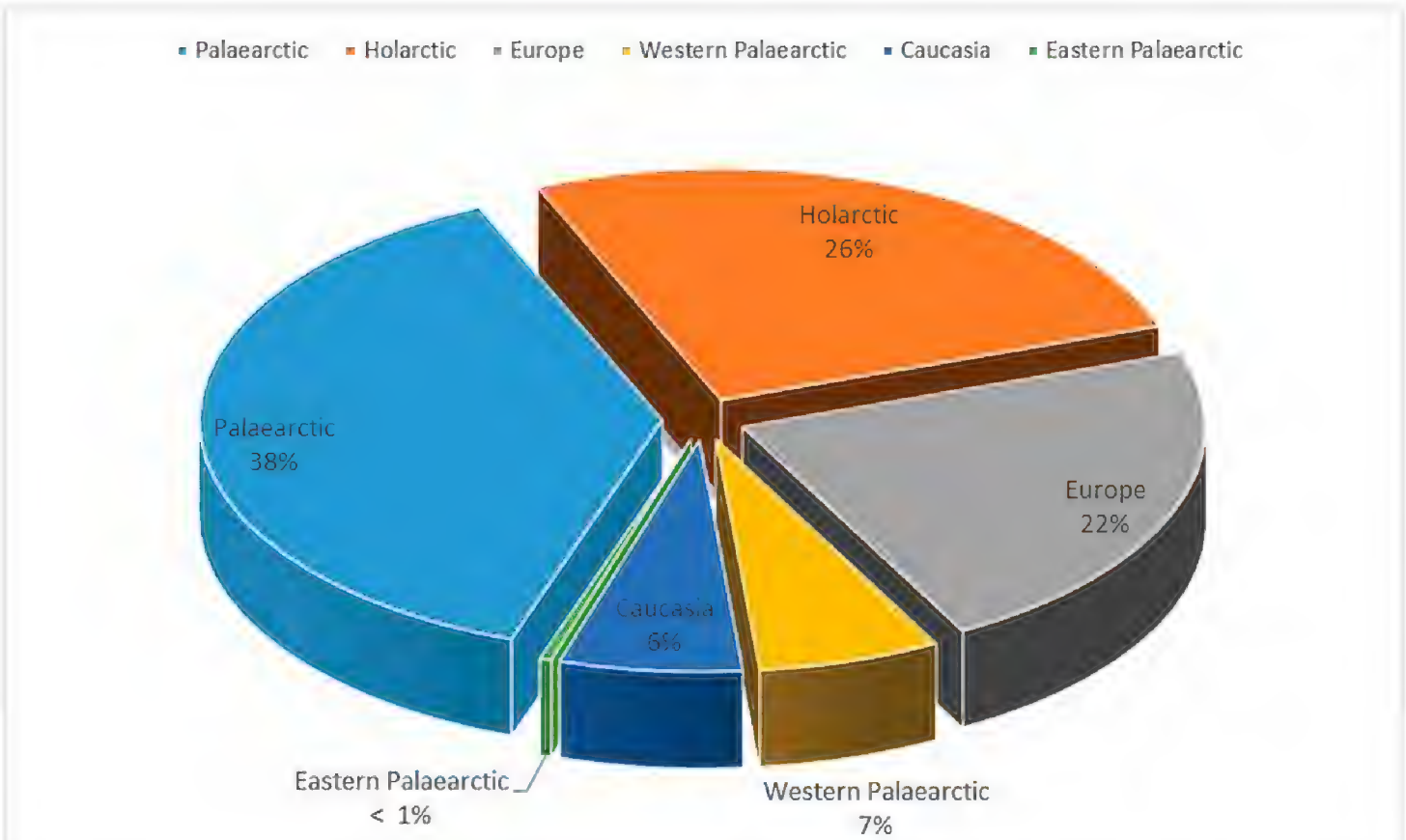

Figure 13. Grouping of the recorded Georgian fungus gnat species in accordance with their known distribution.

sweeping studies will probably increase that number considerably (see also below). As expected, the majority of the recorded species are widely distributed in the Palaearctic or Holarctic regions (38% and 26% of the recorded species, respectively), while 22% of species are restricted to Europe and 7% to the Western Palaearctic (Fig. 13). In addition, one species was so far known only from the Eastern Palaearctic and 17 species (11 described and 6 undescribed) are classified (tentatively) as Caucasian endemics. These proportions can change as fungus gnats are rather poorly known in several Palaearctic regions including the East Palaearctic, Asia Minor, Central Asia, as well as other regions in Caucasia.

The estimated species richness is the highest when calculated using Jackknife-2 nonparametric estimator (404 species, Fig. 14). This method has been discussed as possibly overestimating the true richness (e.g. Poulin 1998). On the other hand, Smith and van Belle (1984) showed that both Jackknife and Bootstrap estimators underestimate the actual number of species if there is a large number of rare species considered and number of samples is low. That can also be the case in the current data as the number of recorded singletons and doubletons is exceptionally high (82 and 42 species, respectively) and the number of species recorded from one sample only (= unique species) constitutes 43% of the observed diversity (107 out of the 251). Within the listed species, only nine were recorded from more than ten samples and 31 species from 5–10 samples. To compare, relatively well studied countries of similar size in Central and Northern Europe (e.g. Czech Republic, Slovak Republic, Estonia) have roughly 600 fungus gnat species recorded (Ševčík and Košel 2009, Ševčík and Kurina 2011a, b, *pers. observation*). Taking into account the mountainous landscape, high diversity of

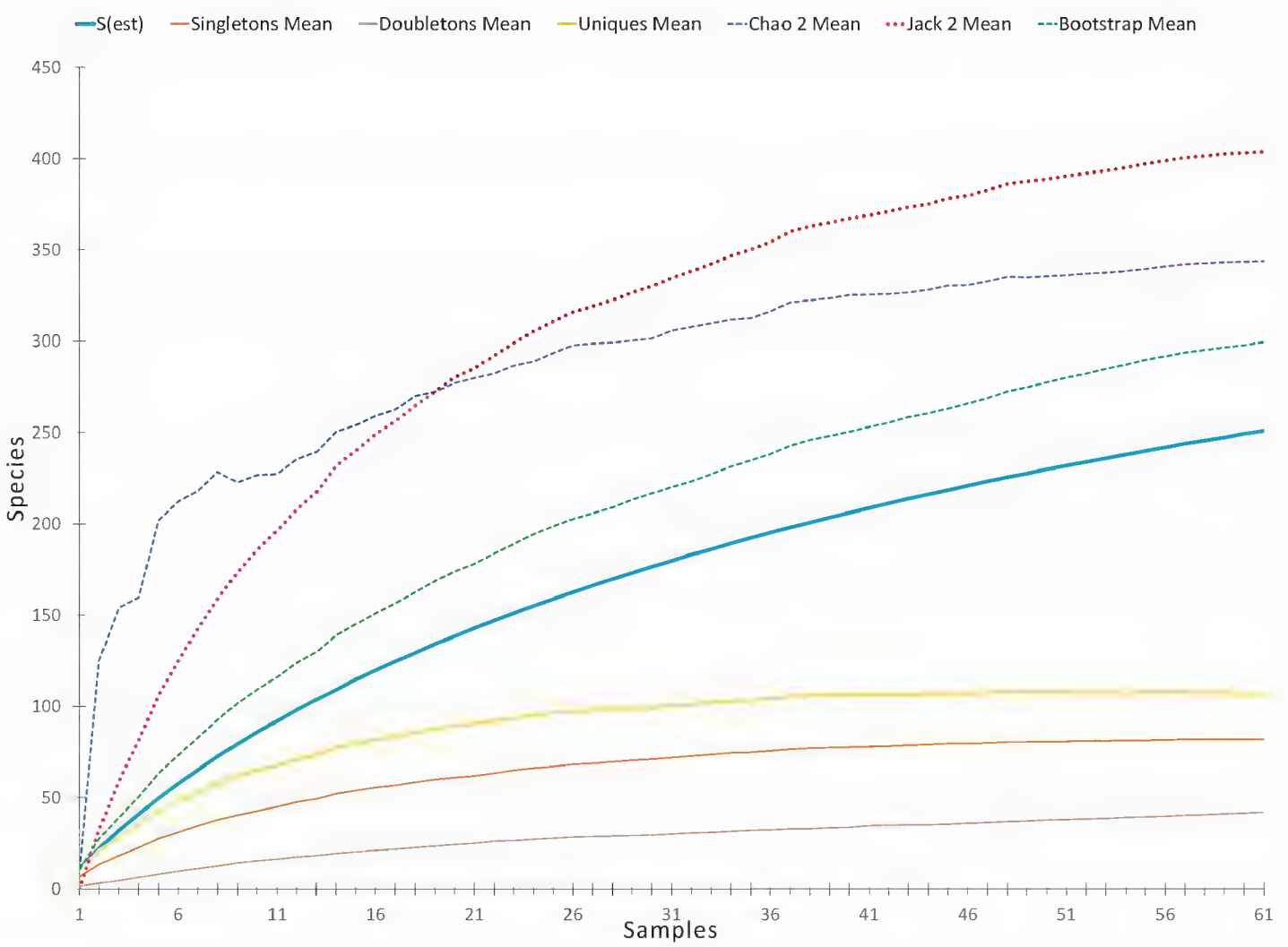

Figure 14. Species accumulation curves (EstimateS, Vesrion 9.1.0.). Three nonparametric estimators (Chao 2, Jackknife 2 and Bootstrap) of total species richness are calculated. S(est) is the cumulative number of species observed.

habitats, microclimates in Georgia and that several regions were not covered by sampling of the current study (see Fig. 1), it can be presumed that the observed 245 species (+ one based on the literature data) do not constitute more than half of the actual diversity, probably less.

Surprisingly, the most abundant species was *Synapha fasciata* (769 specimens from 19 samples) followed by *Orfelia georgica* (175 specimens from 14 samples). In the European boreal and temperate regions, the most abundant species belong frequently to the subfamily Mycetophilinae and/or to the genera *Boletina* Staeger and *Mycomya* Rondani. Several of the recorded species considerably increase the knowledge of their distribution, the most remarkable of them include: *Neoempheria brevilineata* (earlier from Japan only), *Clastobasis loici* (earlier from Europe and Japan), *Lusitanoneura chandleri* (earlier from the Mediterranean Islands), *Zygomyia setosa* (earlier with scattered distribution in Europe), *Manota unifurcata* (earlier from Europe only).

From the material underlining this study, four new species have been described earlier (Kurina and Jürgenstein 2013; Kurina 2018; Ševčík et al. 2020), three new species are described above and six putatively new species are left to be described in the future due to insufficiency of the available material or its quality. More exhaustive sampling will naturally yield a number of new taxa to be described in the future.

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